A Clinical Lecture
ON
DUODENAL ULCER.

DELIVERED AT THE LONDON SCHOOL OF CLINICAL MEDICINE.

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So much attention has been directed recently to ulcerative conditions of the duodenum that the opportunity seems favourable for discussing with you a disease which has hitherto somewhat eluded accurate clinical observation, because its symptomatology has been but imperfectly described.

Modern surgery has now introduced methods of treatment, the advocacy of which makes the early recognition of duodenal ulceration more than ever a question of primary importance. Tuberculous and cancerous ulcers of the duodenum are not included in the following summary, which applies only to ulcers of a simple or non-specific type. Duodenal ulcer occurs more frequently in men than in women, and, though it may be met with at any age, it is most common at or about middle life.

In most instances the ulcer is situated in the first part of the duodenum, above the entry of the common bile duct and close to the pyloric ring. It is usually circular in shape, but may be oval or elliptical, and has a punched-out appearance, with inflammatory changes at the borders very similar to what we find in the more common gastric cases. From the situation of the ulcer at that portion of the duodenum between the pylorus and the bile-duct papilla, which is the only part of the intestinal canal subjected to contact with the acid gastric contents before they are mixed with and neutralized by the secretions of the liver and pancreas, it seems not unlikely that the projection of this acrid fluid against a vulnerable spot may play an important part in causation. Bacterial infection probably also enters largely into the etiology.

Duodenal ulcer may be met with either in an acute or in a chronic variety, but it must be remembered that, though acute conditions such as haemorrhage or perforation may be the first definite manifestations of the disorder, yet the ulcer may have existed in a chronic form for a long time previously without giving rise to any definite symptoms. It has been estimated that about one-fifth of all the cases observed are latent over a longer or shorter time, sometimes many years, before they produce signs and symptoms sufficiently characteristic to admit of their definite diagnosis.

The leading and characteristic features of duodenal ulcer are deep-seated and localized pain in the right hypochondrium; dyspeptic symptoms occurring several hours after a meal and relieved by taking more food; and malaena or haematemesis. The pain is of varying intensity, and is situated to the right of the ensiform cartilage about the level of the tip of the eighth rib, whence it frequently radiates through to the back and reveals itself by a tender spot to the right of the last dorsal vertebra. On deep pressure the right rectus muscle stands out with more or less firm resistance. This local tenderness, accompanied by rigidity of the rectus muscle, is so striking that, without its presence, the diagnosis of duodenal ulcer must always be doubtful. The subjective pain, which is of a burning, gnawing character, comes on from three to four hours after a meal, is usually associated with acid eructations, and is always relieved by the ingestion of food. The pain gradually increases until it reaches a climax and is accompanied by a sense of distension in the stomach, which is temporarily relieved by eructations of gas. It comes on earlier after a light liquid meal than after one that is more substantial. It not uncommonly wakes the patient out of his sleep about 2 or 3 o'clock in the morning. The descriptive title of "hunger pain" has been suggested because it is usually first complained of when the patient is beginning to feel hungry. Its commencement is often heralded by a copious secretion of saliva. The appetite is generally excellent. Vomiting is the exception rather than the rule, and, when it occurs, fails to relieve the pain so completely as it does in gastric ulcer. The general health is not seriously interfered with, and the disorder is subject to long remissions, during which the patient is both subjectively and objectively apparently perfectly well. Melaena, when it occurs, may be so slight as to be unperceived, or it may occur profusely once only after a sudden feeling of faintness accompanied by colicky pain. In some instances a copious haemorrhage from the bowel is the first intimation of serious illness, but as this occurrence may result from many other affections besides duodenal ulcer, an accurate diagnosis can be arrived at only by a process of elimination of other possible explanations. In the most serious group of cases perforation occurs as the first event; it reveals itself in the usual way by sudden acute pain, which is often referred to the right iliac fossa, and is quickly followed by rigid abdominal muscles, vomiting, small rapid pulse, subnormal temperature, sweating, and all the other well-known evidences of collapse.

A duodenal ulcer may continue over a very long period of time and be so obscure that it is unsuspected until narrowing of the duodenum from cicatricial changes produces a train of developments, including dilatation of the stomach, similar to those met with in stenosis of the pyloric orifice, from which they may be indistinguishable. Or, if the ulcer happens to be situated over the orifice of the common bile duct, its cicatrization may cause obstruction to the discharge of bile into the bowel and so be the cause of a persistent jaundice similar to that met with in cases of impacted gall stone. In cases of long duration, in which dyspeptic symptoms have been more or less continuous, there may be very considerable loss in weight; and, if there has been active haemorrhage, anaemia may be a striking feature of the condition. Apart from actual cicatricial contraction, another not uncommon result of continued irritation from a chronic inflammatory process is the formation of adhesions, which may involve not only the duodenum itself, but the neighbouring gall bladder or stomach as well, and so give rise to a confused series of symptoms, which it is often difficult to explain. The urine may be normal, but it sometimes shows a trace of albumen, sometimes has an excess of bile, sometimes contains indican, and not infrequently gives a positive pancreatic reaction.

In the diagnosis of duodenal ulcer the conditions with which it is most liable to be mistaken are gastric ulcer, neurasthenic gastralgia, gall colic, and the gastric crises of locomotor ataxia. In gastric ulcer the pain comes on immediately or shortly after food, according to its situation, and is at once relieved by vomiting; the local tenderness, if any, is situated in the epigastrium; the appetite is poor, and whatever slight desire there may be for food is checked by the dread of the pain that will follow its ingestion, it being a point of some diagnostic importance that the degree of pain is frequently in direct ratio to the quality and quantity of the food taken; when bleeding occurs it is generally, in the first instance, in the form of haematemesis. In gastralgia the pain comes on suddenly at any time and irrespective of food, by which it may be even relieved; pressure over the epigastrium or the eructation of wind generally relieves the discomfort; haematemesis or malaena never occurs; the patient is usually of the neurasthenic type. In gall colic the onset of the pain is more acute, and its intensity is more severe; it is always accompanied by nausea or vomiting, and often, though not always, followed by jaundice; the liver is frequently enlarged, and there is tenderness on pressure over the gall bladder; there may be a history of previous attacks, and of the recovery of gall stones from the faeces. Cases have been recorded of duodenal ulcer, confirmed by operation, in which the attacks of pain so closely resembled biliary colic, that they necessitated the patient being put to bed with hot bottles and the administration of morphine. In the gastric crises of locomotor ataxia their true nature will be determined by the presence of ocular symptoms, a history of previous lightning pains and the absence of knee-jerks. Gastric and duodenal ulcers originate in much the same way and present similar anatomical characters. Their symptoms may resemble one another so closely as to make a definite diagnosis impossible in many instances, while, as has been already pointed out, the complexity of the symptoms which may arise when the morbid condition is one of such a nature as to involve the gall bladder or pyloric end of

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the stomach as well as the duodenum itself, is such as to make definite differentiation a matter of impossibility. And yet, despite this uncertainty, there are not wanting at the present day those who advocate an abdominal section in the sure confidence of finding a duodenal ulcer if the patient presents the following symptoms: Sudden haematemesis or melaena; a history of recurrent gastralgic attacks with intervals of apparent good health; pain in the stomach region coming on three or four hours after a meal and relieved by food; flatulence and regurgitations of acid fluid from the stomach; tenderness and increased resistance to pressure in the right hypochondrium.

Such a combination of symptoms no doubt affords strong presumptive evidence in favour of duodenal ulcer, but does not justify the wholesale condemnation of every patient presenting such a picture to the operating table. One surgical authority goes the length of saying that it is "not necessary to the attaining of an accurate diagnosis that any examination of the patient be made." The meaning of this statement presumably is that the patient's own statement of his sensations is sufficient to warrant the opening of his abdomen without the formality of any physical examination. This same authority states, of a patient who was sent to him because of an inguinal hernia: "As he entered my room I was struck with his blanched appearance, and my diagnosis of duodenal ulcer was made before he reached a chair." To the ordinary observer such a process of lightning diagnosis is, to say the least of it, startling.

The following case well illustrates some difficulties that are not uncommonly met with:

A robust, energetic, full-blooded, gouty man of 54 years of age, had never been ill throughout the length of a busy and over-strenuous life, except for a mild attack of enteric fever which he went through when between 20 and 30 years of age. From the time of that illness he suffered every now and again from attacks of what he believed to be indigestion, which he ascribed to more work than usual, and from which he always recovered if he gave himself mental and physical rest, and curtailed the supplies of food, alcohol, and tobacco. He had been a free liver, he smoked to excess, indulged daily in three large meals, dealt generously with himself in the matter of alcohol in all its varieties, and seldom went to bed before the early hours of the morning. He was distinctively of the neurotic type, and flattered himself that he was able to keep his health in perfect order by physical exercises of one sort and another, and by periodic courses of energetic and even violent massage. The only evidence of organic disease he presented to physical examination was a marked diminution in the area of liver dullness, a tendency to haemorrhoids, and an occasional trace of albumen with a persistency of phosphate in the urine. He slept perfectly at night, digested everything he took between the times of his gastralgic attacks, increased gradually in weight, and had no tenderness either in hypogastrium or epigastrium on the deepest pressure. His gastralgic attacks recurred at varying intervals, and, when he allowed them to be medicinally treated, were always rapidly relieved by citrate of caffein, phenacetin, and codeia. On a certain Saturday he overtired himself on a golf links, took a large luncheon between his games, and in the evening indulged in an abundant dinner. After going to bed he found himself unable to sleep, and, feeling his stomach uncomfortably overloaded, he proceeded to subject himself to severe physical exercises and deep abdominal kneadings. This produced faintness, which was followed during the night by a moderate haematemesis and the following day by considerable melaena. He became sufficiently alarmed to take proper care of himself, rapidly became well, and has remained so ever since. Here is a picture which at first sight seemed to justify the advice given him to have a gastro-enterostomy done without delay, as beyond all doubt he was suffering from a duodenal ulcer, which, to permit of such an amount of haemorrhage, must be deep, and therefore more than likely to perforate. But there is another side to the story, and before committing such a case to the risks of an operation which might well enough prove to be unnecessary the following points are worthy of attention: The patient is a man of the distinctive neurotic type; the history of his life, and such physical signs and symptoms as he presented, all pointed to the existence of a slow cirrhotic process, which had mostly affected his hepatic tissues; his attacks had been so far typically gastralgic, and had yielded at once to antineuralgic remedies; the haemorrhage he had suffered from could be fully explained by the state of his liver, *plus* excessive exertion, *plus* too much food and drink, *plus* unwise manipulation of his abdomen; there had been a complete absence of hypogastric tenderness or muscular resistance to pressure over the duodenal region; the gastralgic attacks had only occurred after—and not impossibly in consequence of—unusual and excessive physical and mental strain; there was an entire absence of dilatation of the stomach, or of other evidence of cicatricial contraction of the duodenum, such as might reasonably have been expected if, over so many years, he had been suffering from an ulcerative process. All these considerations surely afford good reasons for patience and further observation, and, to my mind, justify an attitude of scepticism as to the urgency, or even necessity, for surgical intervention at the present juncture of affairs. Such an attitude of reserve is fortified by the consideration of yet another case: A gentleman of 51 years of age had suffered for many years from indigestion and pains in the abdomen, which were ascribed by different doctors to duodenal ulcer, gastralgia, gall stone, and simple gastric catarrh. He was treated on many plans, and underwent the usual cure at Carlsbad, but though he got better for a time his discomforts always returned. Eventually he was operated upon in the belief that the true cause of his symptoms must be gall stones. The gall bladder and ducts were, however, found to contain no stones, though he was told that many adhesions had been found round and near the gall bladder. After his operation he was better for a time, but soon he began to experience nausea, heartburn, and pain in his stomach, which always came on three or four hours after a meal or during the early hours of the morning, was accompanied by acidity, and was immediately relieved by food or a dose of bismuth and soda. He had recently lost fully a stone in weight. There was no tenderness in his right hypochondrium, but he had definite though slight dilatation of his stomach, and his conjunctivae were suspicious of a mild degree of icterus. The urine was found to give a marked pancreatic reaction to Cammidge's tests, but contained neither sugar nor albumen. On further inquiry it transpired that at the time of the operation the adhesions were found to be the accompaniment of a mass of glands which were regarded as probably tuberculous, and which, spreading from the root of the mesentery, involved the head of the pancreas. Here again is a case where the symptomatology was so obscure that a definite diagnosis was impossible, and where the operation revealed an unexpected explanation in the discovery of glands which so interfered with the normal activity of the pancreas as to set up a mild form of pancreatitis. Incidentally it may be remarked that this case bears witness to the value of Cammidge's tests, the positive reaction they afforded being fully confirmed by the surgical history, which was only obtained subsequently. It further raises the important question of how far the symptoms which are now attributed to duodenal ulcer may not frequently be, in some degree, the result of pancreatic insufficiency. A distinguished physician has put it on record that "the pancreatic C reaction has been found in all my cases of duodenal ulcer demonstrated at the operation in which it has been looked for, and in the majority of those in which a duodenal ulcer was inferred from the symptoms." And an equally distinguished surgeon has confirmed this experience and has stated that the pancreatic test "is common both to duodenal ulcer and to cholelithiasis, both of which are associated with duodenal catarrh." We are still without any well-defined clinical picture of the subjective phenomena which result from a chronic pancreatitis. Cammidge's tests applied to the urine and faeces, even if taken alone, are of the highest suggestive value, though they only become essential links in the chain of evidence when they confirm clinical observation; they then convert a tentative into a definitive diagnosis. The pancreas, when disturbed only by a chronic process, may be quite impalpable, and may yield no sensations of pain, either subjective or objective; the sclerotic changes which have invaded its interstitial tissue

may not have encroached upon the islands of Langerhans, and the urine may therefore give no positive reaction to Fehling's test, such as would arouse our suspicions; the appetite may remain vigorous, and any digestive disturbance complained of may be apparently entirely unassociated with the intake of food or drink; and, to outward appearance, the patient may look well and hearty. But may it not be true that many cases which are now regarded as due to suppressed gout, inactive liver, gastralgia, acid dyspepsia, or duodenal ulcer, are really instances in which the pancreas is either wholly or partially responsible for the disturbance of health, which, though definite, is too ill-defined to admit of a positive diagnosis?

Let me quote yet another striking case in support of such a hypothesis:

An active man of 52, of the gouty type himself and belonging to a family many members of which had suffered from acute gout, who had worked hard and lived abstemiously, and whose only previous illness of consequence was a mild attack of enteric fever fifteen years previously, had suffered periodically over some years from recurrent attacks of what were regarded as gastro-hepatic catarrh due to gouty disturbance. These attacks were always of the same type; they came on after unusual work or worry, were characterized by nausea, anorexia, headache, somnolence, pronounced mental depression, slight icterus, colicky pains in the upper region of the abdomen, and a profuse discharge of lithates in urine containing an excess of bile. They lasted over several days and cleared up under the influence of rest, a semi-starvation diet, and alterative medicines. A final attack, however, supervened in which to the same train of symptoms there was added a marked and gradually deepening jaundice with pains which were more severe than any he had experienced on previous occasions, and with a nausea that went the length, several times, of active sickness. Remedies failed to afford relief, and eventually he developed pyrexia to the accompaniment of a succession of mild rigors. Under the impression that he must be suffering from gall stones, with a superimposed cholecystitis, his abdomen was opened. No gall stones were found, but his pancreas was hard and swollen though not apparently haemorrhagic. His gall bladder was drained and he made a satisfactory recovery. Since the date of his operation he has resumed active work, and kept well, but he still has occasional attacks similar to, though less severe than, those he previously suffered from, and he has developed a mild glycosuria which is kept in check by careful attention to diet, etc.

It is of interest to mention, in passing, that in the case of this patient, his attacks, when they occur, are now speedily remedied by the administration of colchicum and alkalis, together with repeated small doses of rhubarb and blue pill. This raises the very significant possibility of his pancreatic troubles being possibly, even probably, gouty. And why should not the poison of gout lay siege to the interstitial tissues of the pancreas as readily as to those of the liver or kidneys? Indeed, why not even more readily, when it is remembered what an important part the digestive juices and internal secretions of the pancreas play in the processes of active metabolism? Is it not conceivable that what, for want of a better or more accurate name, we call suppressed gout may not in time prove to have for its etiological foundation active changes in the pancreatic tissues—changes which, though of minor and passing importance at first, gradually end in the establishment of cirrhosis of a more or less widespread distribution? May it not even ultimately turn out that true sthenic gout itself is closely related to active pancreatic changes in the first instance? As bearing upon such a possibility, I need hardly remind you of the frequency with which glycosuria develops in later life among men who in their earlier years have suffered from gout, and how it is apt to be associated with a minor degree of albuminuria—suggestive evidence surely of interstitial changes in the pancreas analogous to similar changes of an interstitial type in the kidneys!

It is admitted that ulcer of the duodenum is sometimes a multiple lesion; that it is often associated with gastric ulcer, and with ulcerations elsewhere in the course of the gastro-intestinal tract. In view of this fact, may not the ordinary duodenal ulcer turn out to be a mere local expression of some dyscrasia, gouty or other, and not a disease entity at all? From such a standpoint it is not surprising that duodenal ulcers tend to recur, nor that operation, even if temporarily ameliorative, is often inefficient as a measure of permanent cure.

In an illuminating lecture delivered at the London Hospital in February last, the author, who is one of the physicans to the hospital, expresses the opinion that "gastric or duodenal ulcer is what we commonly term a diathesis, that is, a natural proneness of the body to a given disease, and that the actual visible ulcer itself is an acute, usually virulent attack of the disease or outbreak of the diathesis, just as an acute attack of gout or rheumatism is an acute outbreak or attack of gout or rheumatism in a person prone to these diseases."

Without the evidence afforded by operation many such cases must obviously remain obscure, but it seems to me that we have not yet arrived at sufficient accuracy of diagnosis to justify certain claims that have been made for surgical interference. In some cases such as the last I have related, surgical assistance is essential; and there may be others, less acute than this, in which draining the gall bladder and bile ducts, or the performance of a gastro-enterostomy, may prove a preventive measure, so far especially as the pancreas is concerned, of the utmost value; but to insist that every patient presenting symptoms of a certain type and sequence, which may or may not be caused by ulceration of the duodenum, should be forthwith exposed to the risk of an abdominal section is going too far. And I am clear, from personal observation, that the symptomatology of duodenal ulcer is by no means so definite as some of the protagonists of this modern surgical method of treatment would have us believe. In the first case I have mentioned to you the patient may, or may not, have a duodenal ulcer, but, to my way of thinking, his case is one to be carefully watched, but not to be interfered with surgically until more precise indications arise, or until his comfort and health are becoming so seriously impaired as to render operation imperative. In the second case operation only brought to light an unexpected explanation of the symptoms, but failed to do more than afford such relief as came from breaking down some adhesions. I do not suggest that, in this case, operation should have been declined; under the circumstances it was the one course left open which was likely to be of use; my contention is that the symptoms which are so confidently regarded by some authorities as indubitably due to duodenal ulcer may occur in, or be so closely simulated by, other pathological conditions as to make such cocksure certainty in diagnosis unreliable.

In the course of a recent discussion at the Royal Society of Medicine, one of the speakers related the case of a patient on whom he operated who had all the characteristic symptoms of duodenal ulcer, "including periodicity of attacks, and hunger pain, etc., and yet no duodenal ulcer was present."

He also referred to others in which, in his experience, the same result had been met with. An infection originating in the upper part of the gastro-intestinal tract must, one would imagine, often find its way up the ducts to the gall bladder and liver on the one hand and to the pancreas on the other, and more especially would this seem likely to happen in conditions where the duodenum had become functionally disturbed even before the process of ulceration was an accomplished fact. Not only has operation often failed to reveal the ulcer whose existence was confidently predicted beforehand, but many cases have been published which prove that operation, even in admitted cases of the disease, have failed to afford relief: notably in a paper communicated to the BRITISH MEDICAL JOURNAL of this year, the writer tabulates five cases of duodenal and three of gastric ulcer, in all of which the results, so far as symptoms were concerned, were so unsatisfactory that the condition of the patient was no better after than before surgical intervention was resorted to. Until differential diagnosis enables us to eliminate many possible sources of fallacy, it will be most in the interests of patients suffering from suspicious symptoms to keep them under careful observation, and within reach of skilled surgical assistance, but to allow them to exhaust the possibilities of medical treatment before adding to the risks of their condition that of a major operation.

As regards treatment, it must be borne in mind that if an ulcer actually exists its healing must be a slow and

somewhat tedious process, and that, if it be a mere dyscrasial phenomenon, it is liable, even if wholly or partially healed, to recur on every renewal of dyscrasial activity. The way in which many cases of supposed duodenal ulcer become well when carefully managed makes it seem likely that in some instances either no accomplished ulceration, or ulceration of modified extent only, is present. We are all familiar with the difficulties met with in the diagnosis of stomach ulceration, and of the large proportion of cases at first labelled "ulcer" which get completely well under rest, regulated diet, and suitable medicinal treatment. It would require some courage to advocate the opening of the stomach on the provocation only of a set of symptoms that might, but also that might not, be the result of an ulcer somewhere on its mucous surface, and yet nothing less than this is the procedure which the duodenal enthusiast asks us to adopt. In suspected cases the patient should limit for the time being his active work, and must carefully avoid all exercises or active games that throw special stress on the abdominal muscles. In the event of a haemorrhage having occurred, the rest obviously must be complete and in bed. Under such circumstances the food should be bland, easily digested, and given at stated intervals in limited quantity. A semi-starvation diet is recommended by some authorities; but though this may be advisable in acute cases for a few days, it need never be pushed the length that is sometimes found necessary in gastric cases, because ingestive discomfort is comparatively slight and unimportant.

After the first acute phase of the illness is over the diet may be reasonably generous, but it is well to remember that tea, stimulants, uncooked vegetables or fruit, and sugar are best done without, and that starchy food should be taken in moderation. The following plan of dietary will be found to suit many cases: A cupful of hot water to be slowly sipped before breakfast every morning; for breakfast, café-au-lait sweetened with saxin, toasted protein, or caseoid bread with butter, eggs poached, boiled or scrambled, or white fish. During the forenoon a cupful of thin clear meat soup, which it is advantageous to thicken with about half an ounce of gelatine. For luncheon well-cooked fresh veal, mutton, or lamb, cooked green vegetables, preferably in the form of a purée; stewed fruit, sweetened with saxin; some form of starchless bread or biscuit, thickly spread with sour milk or lactic acid cheese; Perrier, Bilin, Gieshübler, or other natural alkaline water. In the afternoon boiled milk, or cocoa infused from the nibs; toasted bread and butter, simple tea-cake. For dinner, fish, plainly cooked and without rich sauce; egg entrée, sweetbread or calf's head, chicken or other form of bird, a small quantity of potato in the form of chips or ribbons, a simple omelette or a savoury. A small quantity of brandy or whisky, if desired, with the meal, and a cup of black coffee after it. Farinaceous puddings, bread, other forms of meat, etc., may be gradually added to the dietary as improvement takes place.

It is of elementary importance to make sure that the buccal cavity is clean, and to this end all decaying stumps should be removed and carious teeth cleaned and stopped. An antiseptic mouth and throat wash should be used freely at least twice a day, both as a gargle and also to brush the teeth with.

As regards medicines, my experience is that most cases are speedily relieved by a combination of bismuth and carbolic acid, to which, if the pain is at all severe, a suitable dose of morphine may be added. The following is a useful formula: Carbonate of bismuth, 40 grains; pure carbolic acid, 2 grains; solution of hydrochlorate of morphine, 15 minims; mucilage of acacia, *quantum sufficit;* compound infusion of gentian to make up 1 oz. To be taken in water from two to three hours after every meal.

To counteract the constipation which usually results from large doses of bismuth, the following or some such pill should be given at bedtime; Calomel, $\frac{1}{2}$ grain; extract of rhubarb, 2 grains; extract of cascara sagrada, 1 grain; capsicine, $\frac{1}{2}$ grain.

When all active symptoms have been subdued, the bismuth mixture may be replaced by such a tonic as this: Finkler's papain, 2 grains; carbolic acid, 2 grains; strychnine, $\frac{1}{30}$ grain; codeia, $\frac{1}{4}$ grain; and extract of rhubarb, $\frac{3}{4}$ grain. To be put in a capsule and taken after meals three times a day. And the aperient pill may be replaced by a morning dose of Carlsbad salts, when required. When haemorrhage has occurred, it is usually an indication for the administration of iron when the tonic stage is reached.

Treatment by sterile horse serum, together with a dry and mostly meat diet, has been advocated recently, but, though I have not resorted to it in cases of suspected duodenal ulcer, I have given it a fair trial in gastric ulceration, but without any result sufficiently striking to confirm the claims advocated for serum as the most valuable of all methods of management.

The leading indications for surgical interference would seem to be: The occurrence of perforation; repeated melaena or haematemesis, especially if associated with pain and resistance to pressure over the right hypochondrium; cicatricial contraction of the duodenum, causing dilatation of the stomach; resistance of the symptoms to all forms of medical treatment; and recurrent attacks of cholecystitis, accompanied by evidences of pancreatitis.

TUBERCLE BACILLI IN THE FAECES IN TUBERCULOSIS.

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IT has been commonly supposed and taught that the discovery of the tubercle bacillus in the stools is diagnostic of tuberculous enteritis. Until recently it had hardly been conceived that the tubercle bacillus might be found in the faeces of persons suffering from other forms of tuberculosis. The observations which follow show how frequently they occur in the faeces of patients affected with pulmonary tuberculosis. Their occurrence in the stools would indeed seem to be much more constant than in the expectoration.

It may be recalled that last year Rosenberger[1] described the presence of tubercle bacilli in the blood in different forms of tuberculosis. More recently Willson and Rosenberger[2] announced that they had found tubercle bacilli in the stools of 100 tuberculous patients, including early cases, and in 21.5 per cent. of 1,033 clinically normal persons. According to these observers, the bacilli obtain access to the blood stream and are carried from the affected focus to the intestinal wall, through which they are excreted, and so are finally discharged in the stools. Klose[3] has likewise found that in almost every case where tubercle bacilli were found in the expectoration they were also found in the faeces.

The significance of the constant discharge of tubercle bacilli from the alimentary tract is immense, both from the point of view of clinical medicine and of public health. On this account it seemed to us desirable to make further observations on the subject, and these are now recorded.

Uhlenhuth and Xylander[4] have recommended the use of "antiformin," a mixture of alkali hypochlorite and alkali hydrate, for the purpose of distinguishing acid-fast from other bacteria in sputum. Acid-fast bacteria can resist this disinfectant when diluted to 20 per cent. for two to five hours, while other bacteria and organic matter generally are speedily dissolved. Uhlenhuth mixed sputum with antiformin in sterile Petri dishes. We used instead conical precipitating glasses. A small piece of faeces, about a cubic $\frac{1}{2}$ in. in size, is placed in a conical glass, and to this some 20 c.cm. of antiformin, which has been diluted with water to 15 per cent., is added. The faecal matter is well broken up and mixed with the fluid, and thereafter as much again of the dilute antiformin solution is added. This is further mixed, and allowed to stand for about an hour. A white curdy precipitate appears on mixing, and in the course of an hour settles into a white layer which varies in breadth. Beneath the white layer some unchanged faecal matter remains, and above the white layer the fluid is of a clear yellow or brownish colour. A residue, including tubercle bacilli, which have been set free by the destruction of the other

constituents of the faeces, appears to be gathered into the white layer by a process of sedimentation. During the precipitation and sedimentation of the organic matter the bacteria are carried down, perhaps in some degree agglutinated. This concentration of the organisms makes up for the disadvantage caused by the initial dilution of the material.

For microscopic examination a drop is then taken from the white curdy layer by means of a pipette and placed at the end of a slide, along with a drop of albuminous water from a mixture containing 1 part of egg albumin to 10 of distilled water and 1 per cent. of formalin, and 90 per cent. of distilled water is added. A film is made in the usual way by drawing out the fluid with a second slide along the surface of the first. The albumin, which is recommended by Seeman,[5] helps to produce a better film and prevents the film from being washed off.

As to the strength of antiformin to be used, we have found that 15 to 20 per cent. is most suitable. The use of a stronger solution, say 50 per cent., is apt to lead to separation of the film. The time during which the action of the antiformin may be continued does not require very strict limitation; although Seeman says that the bacilli cannot stand its action for twelve hours, we have not been able to determine any deterioration of staining properties of the bacilli after twenty-four hours' action when use is made of the 15 to 20 per cent. dilution. The action of the antiformin seems to be chiefly exerted during the first hour, so that there seems no reason to continue the process for more than that time. Indeed, if the white layer has formed well within half an hour, the film may be prepared then. Even when the curdy layer does not become quite white, but remains of brownish tint and small in amount, our experience is that little is to be gained by waiting longer than an hour. The excess of brownish coloration is commonly dependent on an excess of faecal matter, or, perhaps, on the presence of iron taken as medicine. The prepared slides are fixed by heat and stained in the usual way by carbol-fuchsin and methylene blue, being decolorized with both acid and alcohol. As the tubercle bacilli are commonly sparse, it is advisable to prepare two or three films from each specimen.

Microscopically the film is found to consist entirely of a blue-stained residue. Here and there tubercle bacilli are conspicuous by their reddish colour. In most instances they require much searching, as their total number is small. Only in two of the considerable series of specimens examined by us could they be said to be abundantly present.

Some doubt might be suggested as to the identity of the bacilli. Willson and Rosenberger were able to distinguish the bacilli in the stools examined by them by means of prolonged exposure to Pappenheim's stain. Other acid-fast bacteria, with the exception of the bacillus of Johne's disease, lost their carbol-fuchsin stain in twenty minutes. Tubercle bacilli retained it for one hundred and sixteen days.

Our slides were decolorized with alcohol as well as acid. Bacilli were not present in the faeces from the normal cases examined. The bacilli in both sputum and faeces possessed the same characters. One case with short, thick bacilli in the sputum had short, thick bacilli in the faeces.

We attempted to make cultures from the faeces, but a large number of resistant spores occur in faeces, and we were unable to destroy them without also destroying the tubercle. While it is possible to obtain pure cultures of the tubercle bacillus from sputum, faeces present greater difficulties, and so far our attempts have proved unsuccessful.

The results obtained by us may be summarized as follows. Altogether 109 different specimens were examined. Of these, 99 were from patients suffering from pulmonary tuberculosis, in different stages of the disease, in the Royal Victoria Hospital for Consumption. None of the patients had intestinal tuberculosis. The others were from patients in the Royal Infirmary, one from a case of tuberculous peritonitis, and the others from patients without a suspicion of tuberculous infection.

Of the 109 persons, only 34 had sputum in which tubercle bacilli had been discovered; 42 had sputum in which no bacilli were found, and 24 had no sputum whatever.

Of the 100 tuberculous cases examined 79 were found to yield tubercle bacilli, and only 21 were negative. Of the 9 specimens from presumably normal subjects none yielded tubercle bacilli.

Of the tuberculous patients, all those with bacilli in their expectoration, with one exception, presented tubercle bacilli in the faeces. Of the 42 cases in which bacillary examination of the sputum was negative, 29 gave tubercle bacilli in the faeces. Of the 24 cases without sputum 17 showed bacilli in the stools.

These results are striking, and are suggestive in regard to clinical diagnosis, and to the larger aspect of preventive medicine. Thus it may be stated with absolute certainty that the occurrence of tubercle bacilli in the faeces is independent of the presence of an intestinal lesion. Indeed, their presence has little reference to abdominal tuberculosis. They were actually absent from the only case of tuberculous peritonitis which was examined.

The remarkable frequency of their occurrence in relation to pulmonary tuberculosis, not only in cases where tubercle bacilli were determinable in the sputum, but also in cases where either bacilli were absent or there was no sputum whatever, would seem to afford an important addition to our means of diagnosis in doubtful cases of pulmonary tuberculosis.

From the public health point of view, the almost unfailing presence of tubercle bacilli in the faeces—the presumption is that in some of the negative cases in the present series more minute examination would have discovered them—raises questions as to the need for disinfection of stools, more especially in the case of bedridden individuals, such as has hitherto not been thought necessary. Further, if, in the Royal Victoria Hospital where swallowing of sputum is carefully guarded against, tubercle bacilli are found to occur so constantly in the stools of the patients, whether expectorating bacilli or not, it may be assumed that in the great proportion of untreated cases, where swallowing is often the rule, the number of tubercle bacilli discharged in the faeces will be vastly greater.

It may be added that the technique necessary for the clinical detection of the bacilli is not difficult or lengthy, and that the process of faecal examination, which is apt to be repellent to some observers, has most of its unpleasantness removed by the method which has been described.

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THE EXPERIMENTAL EVIDENCE FOR THE THEORY OF THE NEUROGENIC CO-ORDINATION OF THE HEART IMPULSE.*

BY

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In an abstract of the work of Cohn and Trendelenburg in the *Centralblatt f. Physiol.*, 1910, No. 5, p. 183, doubt is cast upon the observations, made many times in the Hallerianum Berne, which speak for the neurogenic nature of the conduction of the heart impulse. The authors have obviously not had time to study the work on this subject, and yet pronounce the opinion that the fundamental experiments of Paukul were carried out "with entirely insufficient methods." In August, 1907, Paukul communicated and demonstrated his experiments to the Seventh International Physiological Congress in Heidelberg.[1] Not one of the experts present doubted the result.

The myogenic theory does not explain how it is that the ventricles can fibrillate while the auricles pulsate, and vice versa; or why a thrust in the right spot into the intraventricular septum brings the heart into fibrillation; or why, what is easier, paraffin injected into the peripheral twigs of the coronary arteries produces a like

* See Appendix D, pp. 224-227, in Sir Lauder Brunton's *Therapeutics of the Circulation* (John Murray), 1908.

effect.[2] Under these circumstances, according to this theory, we must suppose that one part of the auriculo-ventricular bundle is fibrillating and the other beating.

On March 18th, 1884, I found in the dog's heart, close under the descending branch of the left coronary artery, a nervous bridge, the ligaturing of which immediately destroyed the co-ordination of the beat between auricles and ventricles. The auricles maintained their frequent beat (160 per minute), while the ventricles beat only 40 to the minute. Professor His examined the ligatured bridge and pronounced it to be a nerve bundle and a group of ganglion cells.[3]

In the rabbit Lomakina saw the auricles and ventricles beat quite independently after separate ligations had been made of the aorta and pulmonary artery.[4] In a dog a ligature applied 4 mm. above the sulcus produced fibrillation of the left auricle, a quickened beat of the right auricle, and a less frequent beat of the ventricles. After loosening the ligature, co-ordination again returned. When the aorta and pulmonary artery were again ligatured, the auricles beat more quickly, the ventricles more seldom. Ligation of the whole heart above the auricles caused these to cease beating, while the ventricles continued. In another dog the right and left auricular appendices were clamped. Both auricles stopped, the ventricles beat. A strong tetanic current upon the left auricular appendix induced 132 beats a minute in the auricles, 104 a minute in the ventricles; strong vagus stimulation, 184 beats in auricles, 80 in ventricles. In a rabbit ligature of the root of the pulmonary artery caused 148 auricular beats, 92 ventricular beats; later 140 auricular to 72 ventricular. Heating the nerve plexus at the base of the great arteries acted even more intensely than ligation; one or both auricles ceased to beat, while the ventricles either continued to beat or fibrillated. After injury or destruction of the plexus situated at the base of the left auricle, we observed entirely different movements of both ventricles to those produced by the ligation experiments. Distant effects were also obtained, for after coagulation of the nerves at the root of the pulmonary artery the base of the *left* auricular appendix beat before its apex.

Professor Busch (Buffalo) found in the Hallerianum[5] that the apex of the rabbit's heart no longer pulsated if it were cut away from the ventricular base until connected only by a moderately broad bridge of tissue. The extirpated dog's heart beat if perfused through the left descending coronary artery with blood half diluted with saline. It tetanized it fibrillated only during the period of stimulation. If normal dog's blood were used for the perfusion and the beating heart was then tetanized, the fibrillations became lasting, but could be removed by the perfusion of diluted calf's blood. A strip of ventricle connected to the base by muscle and the coronary vessels beat more seldom than the rest of the heart. If fibrillations were induced in the heart the strip participated, but began to beat when the vessels were ligatured. In one case the bloodless strip fibrillated also.

Dr. Imchanitzky-Ries proved microscopically in 1905 that quickly fixed pieces of the *pulsating* ventricles showed an equidistant transverse striation everywhere, whereas pieces of the *fibrillating* heart showed fibres in different stages of contraction.

The phase of contraction, therefore, does not pass beyond the bounds of the fibre. Inside one fibre also the transverse striation can be different.

This discovery proves that the muscle fibres possess no direct functional connexion. As in the *beating* heart the fibres all show the same phase, the connexion must be independent of the muscle—that is to say, through the nerves.[6]

At Palermo I found with Spaletta in the heart of the turtle a nervous bridge running on the outer side from the auricles to the ventricle. Section of this bridge destroyed co-ordination.[7] In hibernating animals (rectal temperature of 5° to 8° C.), with the heart beating 12 to the minute, the strongest induction shocks did not produce increase in the rhythm, whereas moderate shocks in the awakened warm-blooded animal would produce fatal fibrillary contractions;[8] consequently the muscle is not directly excitable.

Paukul in a series of experiments carefully ligatured the auriculo-ventricular bundle (the bundle of His). Microscopic examination confirmed the crushing by the ligature. Nevertheless, the auricles and ventricles continued to beat with the normal rhythm. Coloured plates of the sections of the bundle have been published. Ligature of the whole heart between auricles and ventricles induced allorhythmia. In one case, too, the introduction of the needle near the bundle without ligaturing produced the same effect. Of this the curves and microscopic evidence have been published.

Cohn and Trendelenburg have cut the auriculo-ventricular bundle in very exact fashion in cats, rabbits, dogs, apes, and goats; they find always that co-ordination was abolished. But these experiments were made not on the *living* but on the perfused or *surviving* heart. Langendorf found that perfused cats' hearts will still beat after they are cooled to 6° C. The *living* dog's heart ceases to beat at 25° C.

It is not necessary to perfuse the coronary arteries of the fibrillating or resting heart with blood to make it pulsate again. Cutting out, as I showed in 1884, suffices; then it pulsates as a whole or in sections either spontaneously or on stimulation.

Our results apply to the *living intact heart.*

Imchanitzky-Ries found in the lizard (*Lacerta ocellata*) that the chief nervous connexion between auricles and ventricle is situated on the dorsal side exteriorly. It contains also many ganglion cells. Ligature of this plexus destroys the co-ordination of the auricular and ventricular beat.[9]

From these observations it follows that the co-ordination of the different parts of the heart is brought about through a nervous channel. Even if the surmise of Cohn and Trendelenburg were correct, that Paukul had not cut all the fibres of the auriculo-ventricular bundle when he saw the auricles and ventricles beating in co-ordinate fashion, both his observations and ours of the incoordinated rhythm induced without any interference with the bundle prove that the *auriculo-ventricular bundle is not necessary for co-ordination or does not suffice.*

In this paper I have given only the observations made by myself or my collaborators.

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NOTES ON TWENTY-EIGHT CASES OF MONGOLIAN IMBECILES:

WITH SPECIAL REFERENCE TO THEIR OCULAR CONDITION.

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THE following characteristic features were observed in the study of 28 cases of Mongolian imbecility at present resident at Earlswood Asylum. Before discussing them it should be noted that, as judged from 50 consecutive cases, the lives of Mongolians are comparatively short. At Earlswood, the average age at death has been 14 years 7 months for boys, and 14 years 6 months for girls, as judged from 21 consecutive cases. Death was due to the tubercle bacillus in nearly 100 per cent. of the cases. This is clear from the following table:

Cause of Death.	Males.	Females.
Pulmonary tubercle	29	12
General tubercle...	8	5
Tabes mesenterica	5	2
Acute miliary tubercle	1	1
Pneumonia	4	—
Bronchopneumonia	1	1
Morbus cordis	1	—
Erysipelas	1	—
	50	21

It is more than probable that the tuberculous element may have been overlooked in some of the cases, as the records go back a considerable time. One case was complicated with status epilepticus, but this is the only mention we have of a Mongolian ever suffering from epilepsy.

The average age of the 20 males at present in residence is 16½, and of the 8 females 13 and 7 months, but of the males 30 per cent. are over 20. This means, we hope, that in the future the average age at death will rise, owing to the better ventilation and steam heating of the present day, and already it is noticed that the chilblains on their hands and feet do not cause so many of them to be kept almost permanently in bed in the infirmary through the winter months.

At a more advanced age the Mongolian seems to be liable to pass away suddenly with acute miliary tubercle; whilst the younger cases contract pulmonary tubercle, and at death general tubercle is found.

Fig. 1.—To illustrate the rounded head and profile.

MENTAL CHARACTERISTICS.

With regard to education little is to be said; under the most favourable conditions their mental ability is of the lowest order, consequently the most interesting lesson fails to gain their attention. Generally speaking, they are inert, apathetic, give very little trouble, and are quite content to pass their time in an aimless, desultory manner.

Though all Mongolians share the foregoing characteristics, certain among their number are lively in disposition and appear to be altogether more intelligent; but this apparent increase in ability is, with some exceptions, directed more or less to mischievous ends.

Great perseverance on the part of the teacher and scholar results in some progress being made in writing, in simple manual occupations, and other work of a mechanical nature.

Imitation is the most strongly marked capability; and this power and love of imitation makes many small children most useful in house work and helping with others, though at school they can be taught nothing.

Almost every one of them is very fond of music, and will beat time correctly all through an hour's performance of the band, and will often imitate the conductor accurately, and be perfectly happy playing imaginary violins, drums, and trombones.

They are most affectionate, and extremely fond of being taken notice of. As a rule they are rarely addicted to the curse of the imbecile, self-abuse, and, if spiteful, seem to do things to the other children for amusement to themselves, and not on purpose to give pain.

Fig. 2.—Case 16. Shows the fissured tongue.

PHYSICAL CHARACTERISTICS.

A typical Mongolian has certain well-marked characteristics. The percentages of these characteristics will be given in a small summary at the end of the paper.

He is of short stature, usually under 5 ft., and compared to his height is generally heavier than normal, this being accounted for by the fact that the spine is longer in comparison to the length of the lower extremities.

The shape of the head is usually brachycephalic; the hair is usually scanty, also dry and wiry.

The face is round and has a reddish flush extending from the malar bone to the lower jaw; the lips are transversely fissured and the lower lip sometimes protruded, giving the face the appearance of being underhung. The tongue is markedly fissured (Fig. 2). The mouth is sometimes kept open, but this is generally not the case, as they have usually a well developed posterior naso-pharynx. It has been stated that Mongolians always have a contracted posterior naso-pharynx; this is not so, and among our cases we have not a single one suffering from post-nasal deafness or aural discharge.

The ears are small, rounded, and devoid of dependent lobes.

The nose has a depressed and broad base to the bridge, and is thus short and squat, generally the nostrils look slightly forward.

The profile is characteristic on account of the usually short and squat nose with ill-defined bridge, thick pursed lips, and tendency to prominence of lower jaw which gives a slightly bulldog aspect to the face, and this must be coupled with the usually poorly developed occipital protuberance (Fig. 1).

An atypical type of case shows the long in contradistinction to the round face, and the dolichocephalic in contradistinction to the brachycephalic head.

The next most characteristic feature is the hands (Figs. 3 and 4); these are "podgy," with short and squat fingers, of which the distal phalanx is nearly as broad as the proximal, and square-ended. The little finger is incurved, and does not reach the last joint of the ring finger, and the skin of the hand is coarse, transverse wrinkles prominent, and sometimes only two well-marked palmar lines are seen.

Another feature is the cleft between the big toe and the rest of the toes (Fig. 5). Knock-knee and flat-foot are almost typical, as is also the very characteristic way of sitting cross-legged like a tailor.

The skin is dry and rough, and sometimes has a downy growth on forehead and nape of neck; the voice also has a distinctive character, a kind of guttural inflection, and a tendency to lalling in which the patients cannot properly pronounce certain consonants—for example, they say "fumb" for "thumb," "yabbitt" for "rabbit," "lellow" for "yellow," "belvet" for "velvet," "tissors" for "scissors."

The teeth, though not showing any originality in shape, are usually badly formed, loosely set in their sockets, irregular in their position, prone to decay, and are generally lost early; the eruption of the teeth seems to take place at the normal periods. The occlusion of the jaws is generally bad; out of 23 cases examined 16 showed inferior protrusion, 5 were practically normal, whilst 2 showed superior protrusion. The typical palate has been well described as "a contracted vault with the sides sloping more steeply in front, so that an anterior plateau is formed, usually rigid in the median line."

OTHER PHENOMENA.

The Mongolian smile is often in great contradistinction

to their usual placid look, and comes and goes instantaneously.

The blood examination of the cases showed:

Red corpuscles	5,600,000
White corpuscles	8,300
Percentage of reds	112
Percentage of haemoglobin	118
Colour index...	1.05
Differential—	
Small lymphocytes	30
Large lymphocytes	6.8
Polymorphonuclears	56
Eosinophiles	4
Mast cells	2.8

The urine showed specific gravity 1018. It was acid, and contained no abnormal constituents.

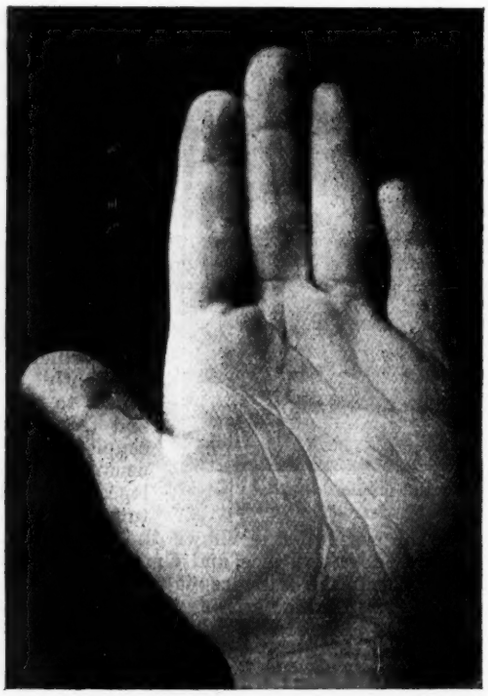


Fig. 3.—To illustrate the transverse markings of the hand.

The knee-jerk, tendo Achillis jerk, abdominal and cremasteric were normal; ankle clonus and Babinski absent.

In only two cases—one male and one female—were there any congenital heart lesions, and except for bronchitis, no

Fig. 4.—To illustrate the incurved little finger and stumpy hands.

other abnormal physical signs were detected in the others, except one male who has tuberculous glands in both inguinal regions, and one male with tuberculous glands of the neck.

Ocular Condition.

In examining the ocular condition of these children, one is struck at once by the large number who have some eye defect, either squint, nystagmus, ectropion, or defective vision, but so far there has not been noted any constancy in the ocular condition, and we should like to draw attention to the frequency with which a definite form of cataract is found to be present.

Among our cases, 28 in number, 19 have lens opacities in some form or another, and 18 have a form of cataract of a particular type. This form is seen fully developed in several of the older patients, and it is present in what is probably an earlier, that is, a less mature form, in some of the others, but it is not found under the age of 9 years in any of the patients we have examined.

In the least-marked varieties the opacities consist of small dots in the cortical portion of the lens, deep to the capsule, and nearer the anterior than the posterior surface (Fig. 6, Nos. 5 and 6). These dots are best seen by focal illumination, and are so small that they are invisible when seen by transmitted light. In the mature cases the opacities consist of two layers enclosing a clear nucleus, the posterior lamella being concave forwards, and corresponding in curve with the posterior surface of the lens, the anterior lamella being much flatter and situated about midway between the centre of the nucleus and the anterior surface of the lens. The opacities do not reach to the equator of the lens in any direction. The lamellae consist of dots, numerous, small, and discrete.

Fig. 5.—To illustrate the gap between the big toe and the rest of the toes.

The posterior pole of the cataract, which appears to correspond with the posterior pole of the lens, is often marked by a star-shaped opacity. The anterior pole of the cataract, which does not correspond with the anterior pole of the lens, often has a similar opacity to mark its position (Fig. 6, Nos. 3 and 4). The more fully developed might be described as lamellar cataracts, the slighter as congenital "dot" cataracts. Very young Mongolian idiots, however, do not exhibit this change, and the fact that it seems to be better marked in the older cases suggests that it is a late development.

It remains to be seen whether in the cases in which slight opacities are found to-day an increased number of dots appear later, or, in other words, whether the cataract is a progressive as well as a partial one. It is probably a partial and progressive cataract, developed as the result of changes taking place in the lens after its formation.

Though the teeth of these patients are defective they do

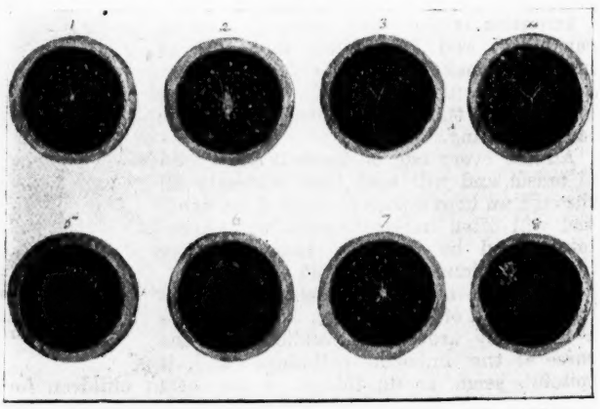


Fig. 6.—To illustrate the cataracts. Nos. 1, 2, 3, 5, 6, and 7 are "dot" cataracts with more marked changes at the poles. No. 4 has only a Y-shaped change at anterior and posterior poles. No. 8 is atypical.

not show the "honeycombed" condition found so frequently in cases of lamellar cataract, but the hair and skin show characteristic changes.

We are unable to record accurately the visual acuity of these children, and they are not sufficiently controllable to be entrusted with glasses.

The ectropion found in so many cases is due to a superficial contraction of the skin of the lower lid, which is

Table showing the Ages and Ocular Changes in the Twenty-eight Cases Described.

Number.	Initials.	Age	Direction of Interpalpebral Fissure.	Nystagmus.	Squint.	Inflammations of Lids.	Epicanthus.	Cataracts.	Remarks.
Males:									
1	A. A.	24	Up and out	Yes	—	Yes	Yes	Yes	Both eyes have well marked lens changes.
2	A. P.	12	Up and out	—	—	—	Yes	Yes	Both eyes have cataracts; slight fundus change.
3	C. J.	14	Up and out	—	—	—	—	Yes	Both eyes hypermetropic astigmatic.
4	H. S.	14	Up and out	—	—	—	Yes	Yes	Both eyes cataractous.
5	G. J.	20	Up and out	Yes	—	—	Yes	Yes	Both eyes cataractous.
6	D. B.	9	Up and out	—	Yes	Yes, ectropion	—	Yes	Both eyes Y-shaped, slight; left eye defective vision.
7	A. R.	23	—	—	Yes	—	—	Yes	Corneal opacity left eye.
8	P. J.	21	—	—	—	—	—	Yes	Very fine.
9	C. W.	21	—	—	—	—	—	Yes	Right eye, typical; left eye, iritis; synechiae and cataract.
10	W. W.	14	—	—	—	Ectropion	—	Yes	Myopic changes in fundus. Left eye, complete cataract, with iritis.
11	F. K.	14	Up and out	—	—	Yes; ectropion	—	Yes	Slight, both eyes.
12	B. S.	18	—	—	—	Yes	—	Yes	Both eyes cataractous.
13	T. W.	11	—	—	—	Yes	—	Yes	One eye only—right eye.
14	H. T.	16	—	—	Yes	Yes	—	—	Disseminated choroiditis both eyes.
15	R. O.	30	—	—	—	—	—	—	No changes.
16	S. L.	43	Up and out	—	—	Yes	—	Yes	Well marked changes in lenses.
17	L. P.	12	Up and out	—	Yes	—	—	Yes	One eye only—right eye.
18	B. A.	8	Up and out	—	Yes	—	—	—	No change.
19	M. G.	5	Up and out	—	Yes	—	—	—	No change.
20	C. B.	15	—	—	—	—	—	—	Hypermetropic astigmatism, normal.
Females:									
21	E. B.	17	—	—	—	Yes	—	Yes	Both eyes cataractous.
22	E. H.	12	Up and out	—	—	—	—	—	Has patches of choroidal atrophy at each macula.
23	G. H.	9	—	—	—	—	Yes	Yes	One eye. Right eye, hard, atypical.
24	W. C.	13	—	—	—	—	—	—	Quite normal.
25	C. D.	31	—	—	—	—	—	Yes	Old iritis and cyclitis, both eyes.
26	G. N.	6	Up and out	—	Yes	—	Yes	—	No changes in lenses.
27	F. R.	22	—	—	—	Yes	—	Yes	Fine fringe of opacities at equator.
28	E. D.	11	Up and out	—	—	—	—	—	Hypermetropic astigmatism.

Table showing the Percentage Occurrence of the Characteristics Noted in the Twenty-eight Cases Described.

	Males.	Females.		Males.	Females.
Tongue sucking	30	0	Hands typical	85	62.5
Tongue protruded	5	12.5	Incurving of little finger	25	50
Tongue fissured	90	75	Little finger does not reach last joint of third	80	100
Enlargement of papillae	70	75	Ulnar deviation of hand	30	62.5
Mouth kept open	65	75	Thumbs small	35	37.5
Lips transversely fissured	35	62.5	Three lines on hand	85	100
Lower lip protruded	30	25	Hyperextension of fingers	95	100
Ears small and round	60	75	Knock-knee	65	100
Of simple type	85	87.5	Flat foot	65	75
If devoid of pendent lobes	55	75	Cleft toe	70	62.5
Nose short and squat	75	62	Hyperextension of knee	50	50
Nostrils look slightly forwards	55	37.5	Skin dry and rough	80	100
Flush on cheeks	55	85.5	Skin covered with fine hairs	40	12.5
Face round	50	62.5	Extremities cold	75	100
Face depressed as a whole	15	12.5	Nasal catarrh	65	62
Lower part of forehead on plane posterior to upper	15	0	Bronchitis	49	62.5
Occiput in direct line with neck	45	37.5	Cracked lips	60	50
Profile characteristic	90	85.5	Lalling	50	? (only a few will talk to order)
Adenoids	45		Deep reflexes normal	100	100
Posterior nares contracted	40		Sits cross-legged	90	100

rough, glazed, and dry, and the marginal blepharitis is probably in the first instance the result of infection from the hands, which are frequently used to rub the eyes with, and is kept up by the ectropion, error of refraction, and dirty habits of the patient.

The number of patients examined was 28, corresponding to 56 eyes.

	Per cent.
19 patients have lens changes	67.8
18 patients have typical lens changes ...	64.3
35 eyes have cataract changes of some sort ...	62.5
33 eyes have typical changes in the lens ...	58.9
10 patients have some inflammation of the lids	35.7
7 patients have squint	
4 patients have choroidal changes	
2 patients have nystagmus.	

The age of the youngest patient is 5 years and the oldest is 43.

The youngest showing cataract is aged 9, and the oldest patient has a well-developed typical cataract of the kind described.

Fourteen patients have the interpalpebral fissure directed upwards and outwards.

We wish, in conclusion, to offer our best thanks to Dr. Caldecott, the Medical Superintendent of Earlswood Asylum, who has given us every facility for investigating these cases.

SOME EXAMPLES ILLUSTRATING CASES OF CHRONIC TOXAEMIA AT VITTEL.

BY

H. J. JOHNSTON-LAVIS, M.D., D.CH., M.R.C.S., ETC.

PERHAPS in the whole history of the growth of a spa or hydro-mineral station none can compare with the remarkable rapidity with which Vittel has jumped into fame. Ten years since it was known to comparatively few physicians, and ranked as a fourth or fifth rate station so far as its resources and number of visitors were concerned. It now stands in the very first rank.

I have practised there seven seasons, and done two cures there myself annually, and may, therefore, claim to speak with some experience. I propose to select a few of my cases from one season's (1909) practice, and to point out the results as an illustration of the beneficent action of the cure in somewhat varied ailments. The cases of "*physiological disequilibrium*" and ailments that are relieved by Vittel treatment, of however varied facies, may all be summed up as the result of *chronic toxaemias* due to either perverted nutrition, defective metabolism, or incomplete elimination. This condition, which we English physicians denominate as "goutiness" and the French medical man as *arthritique*, is ill expressed by such terminology. All originate in an excess of one or more of the normal constituents of the blood or the presence of abnormal ones. When we look at these different *disturbances of the physiological balance* we shall all the more clearly appreciate the close association of many different ailments. We shall also be able to comprehend how a cure such as Vittel is one of the most effective and rational methods of restoring *physiological equilibrium*.

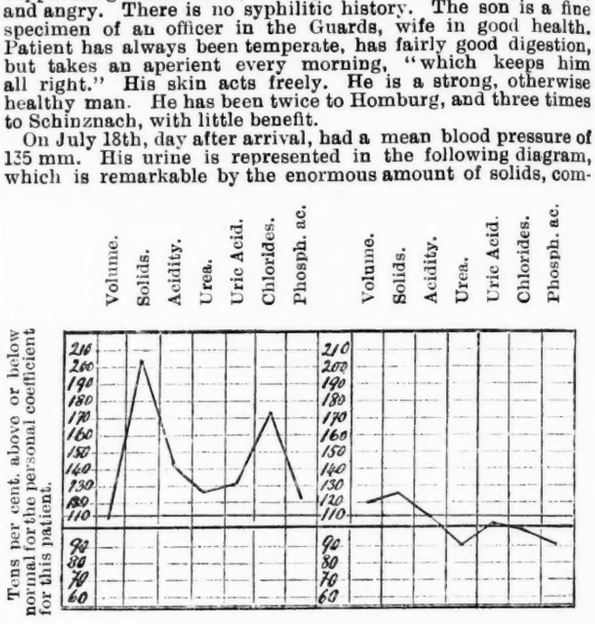
Who can draw the border line between acute and chronic gout, calculosis, some forms of nephritis, arteriosclerosis, neurasthenia, asthma, chronic bronchitis, some dyspepsias and entero-colitis, many skin diseases, neuritis, some rheumatisms, etc.?

When I have at other times sustained this thesis, critics have held me up to ridicule. My answer has been, Think over it, and tell me why we so often find several such states associated in the same individual at once or alternating with each other, and why the same cure with suitable modifications is so efficacious in relieving or curing these troubles.

All the analyses are of the entire and carefully collected quantity of twenty-four hours. They are made in my own private laboratory, fitted with the most modern and approved apparatus by my analyst, Dr. Burrais, of the Pasteur Institute. He knows nothing of the cases, and is therefore quite free from any personal equation modifying the result. All the results are calculated on the personal equation of each individual based on weight, height, and age. Where extraordinary results are obtained, both of us repeat the determination. All calculations are based on the personal coefficient. I have much pleasure in thanking him for his valuable and skilful assistance.

J. M., a highland chief, aged 58, 6 ft., weight 77 kilos, sent by the late Dr. Radcliffe Crocker. Has suffered for years from eczema on neck, fingers, toes, and fork of legs. He complained of feeling stiff in his movements, lacking energy, and always tired. Has also patches of psoriasis on knees. Two fingers and one toe suppurating around nails, the region of which is red, swollen, and angry. There is no syphilitic history. The son is a fine specimen of an officer in the Guards, wife in good health. Patient has always been temperate, has fairly good digestion, but takes an aperient every morning, "which keeps him all right." His skin acts freely. He is a strong, otherwise healthy man. He has been twice to Homburg, and three times to Schinznach, with little benefit.

On July 18th, day after arrival, had a mean blood pressure of 135 mm. His urine is represented in the following diagram, which is remarkable by the enormous amount of solids, com-



J. M., July 20th, 1909.

Traces of some reducing material (? glucose). Slight traces of true and modified biliary pigments and of scatol. Abundant deposit of urates and some pavement epithelium. Purins 0.518 per 24 hours.

August 9th, 1909.

True biliary pigments in traces, as also faint reaction of scatol. Urates and cells much less. Purins 0.689 per 24 hours.

posed of all the elements of the urine, but specially chlorides, which were 75 per cent. in excess. His urea-uric acid coefficient is sensibly normal, but both are increased nearly thirty per cent. above what they should be.

After a few days he was drinking 1,800 c.cm. of Grand Source before breakfast, and 900 c.cm. in the afternoon. The skin was kept active with baths at 36° C., and a low semivegetarian diet ordered, excluding salt as much as possible.

Another twenty-four hour urine analysis, made on August 9th, one day after the cure was stopped, shows a remarkable change. The curve has the same general form, but approaches quite near to the normal line. Solids have fallen from 204 to 125 per cent., acidity from 144 to 110 per cent., urea from 128 to 90 per cent., uric acid and chlorides to normal, and phosphates to 9 per cent. below normal.

Simultaneously with this all his feelings of stiffness, loss of energy, etc., have disappeared, and all his skin lesions are rapidly healing.

I think we have here a case of excessive assimilation which led up to a state of autointoxication in which the skin was most affected, but he was on the verge of an outbreak of joint, muscular, and nervous trouble.

The lixiviating effect of a rapidly absorbable and rapidly excretable non-chloride-bearing waters is striking.

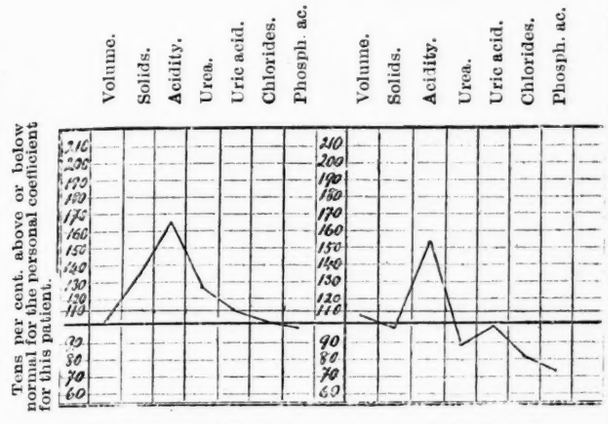
The purin bodies as a whole seem to have increased at the end of the cure. Whether we can interpret this as increased production or increased excretion of a retained stock could only be determined by ulterior analyses, which unfortunately could not be obtained.

The following three cases I have chosen because they consist of father, mother, and adult daughter living under sensibly the same conditions, and furthermore that, as they enjoyed Vittel so much, they stopped on for some weeks after their cure, and the second urine analysis was made at a considerable interval after their "cures" had stopped. These are rare opportunities, and I think worthy of study.

Dr. Curgenven, who sent them to me, says:

"Mr. S. had an attack of cardiac weakness and irregularity about two years ago—a very irregular pulse, high arterial tension, a tendency to dyspnoea, and a dilated stomach; this was caused, I think, by living at too high a pressure, and too

generous a diet. With rest and careful dieting he soon improved. A year ago he had a mild attack of basal pneumonia, and he has occasional attacks and threatenings of lumbago."



Mr. C. S., July 25th, 1909.

Modified biliary pigments fairly abundant; indican marked; scatol slight traces. Purins 0 798. Abundant crystals of uric acid and urates, and also oxalates. Some epithelial cells.

August 23rd, 1909.

Modified biliary pigments normal; indican fairly marked; scatol traces. Purins 0.717. Urate of soda, very few oxalates, and epithelial cells.

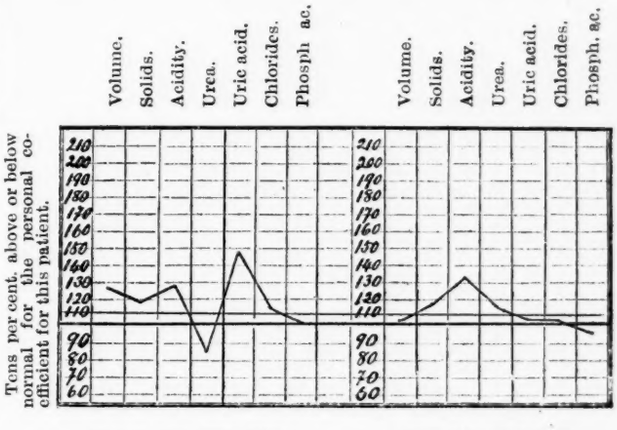
The patient, Mr. C. S., is a hale and hearty looking man, aged 60. His digestion is fairly good, except for a little flatulence; the bowels regular. Cardiac area faintly increased when the heart is working at its normal rhythm. When I made my first examination, on July 23rd, his pulse was running at an almost uncountable rate. After various attempts and dodges I made it 192. While making notes of this and other observation, occupying about three minutes, I returned again to feel the pulse, when to my astonishment it was a steady, vigorous beat of 72. His mean blood pressure was 140 mm. He himself attributed his cardiac condition to extra smoking, he having filled in all the time of travelling by doing it. He was suitably dieted, and alcohol, tobacco, tea and coffee restricted. At the end of three weeks all his cardiac symptoms had disappeared, his digestion was all right; he expressed himself as feeling quite well. His pulse was still at 72, but his blood pressure had fallen to 115. Several days after stopping the cure this favourable state persisted.

The urine analysis anterior to the cure shows a large excess of nutritive substances and their waste products that the organism was making a great effort to excrete. In the urine analysis after the end of the cure we see that the solids, which were 133 per cent., have fallen to just below normal. The acidity has been but little reduced, only amounting to 12 per cent. less. Urea was reduced from 127 to 89 per cent., and uric acid to normal. Before the cure urea was much higher than the uric acid, whereas after the ratio was reversed, showing the great utility of the waters in restoring the proper ratio of these two bodies; in fact, this is almost universal, and clinically I have always found that when marked benefit has accrued this has been the case, and where absent the cure has been of less use.

The chlorides and phosphates had fallen considerably below normal. Diet will explain the former but the latter is more difficult to interpret.

Here we have an illustration of four distinct elements leading to chronic toxaemia—excessive smoking, alcoholism, feeding, and mental activity. This led to general circulatory spasm, in which both arteries and heart were affected. That true arterio-sclerosis had set in is disproved by the rapid fall of blood pressure under treatment, but no doubt a continuance of the patient's mode of living will soon lead to irreparable artery and heart changes.

Mrs. S., wife of the last patient, aged 45, of slim build, is congenitally partially deaf; is a very nervous woman, partly due to that defect; gets bad rheumatic pains, especially in shoulders, and stiff neck, which are specially excited by champagne and strawberries. She has occasional bad headaches but is a great cigarette smoker, and has marked arcus senilis. Heart sounds normal except that aortic valves closed with a slight clang. Has had several children living, and two bad miscarriages and fibroids. Menopause at 42. Digestion is good but has to take cascara. Sleep moderate, perspiration very free. Takes plenty of exercise—golf, etc. Urine analysis at commencement of cure shows solids and acidity too high, urea 15 per cent. below normal and uric acid 47 per cent. above—a very great disproportion. Besides the cure she had some general massage with Vigorax, a dietary in which fats and oxalate-bearing foodstuffs were excluded. The result of this was a vast improvement in her health—she became less nervous, her pains disappeared as well



Mrs. S., July 25th, 1909.

Traces of true and modified biliary pigments. Scatol reaction very marked. Purins 0.922. Fair quantity of urates, oxalates, and pavement cells.

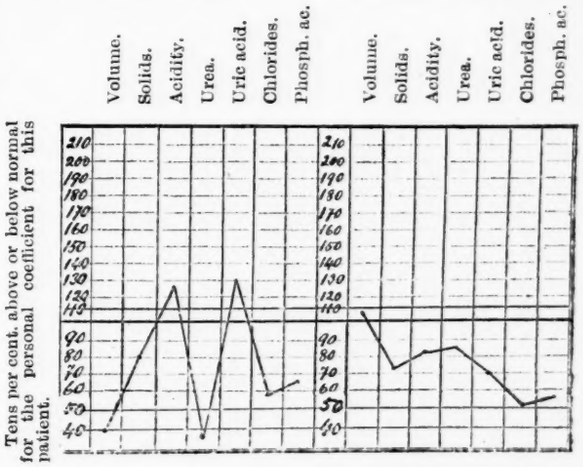
September 3rd, 1909.

Traces of true and modified biliary pigments, and traces of scatol. Purins 0.206. Urate of soda fairly abundant; only a very few oxalates. Pavement epithelium cells and rhomboidal cells.

as her headaches. A second analysis made some time after the cure terminated shows that both the quantities and ratio of uric acid and urea have been readjusted to practically normal.

In this case we have a chronic toxaemia due to incomplete metabolism, urea being replaced by an excessive production of uric acid and oxalates. The cure has resulted in the rise of urea to above normal, coincident with the fall of uric acid to normal and the almost total disappearance of the oxalates. The purins as a whole fell to less than a quarter of what they were before treatment. How much of this was due to the food consumed it is difficult to say, yet both husband and wife were following much the same menu at the hotel.

Miss S., the daughter, aged 25, weighed 79 kilos, and is for her height and age obviously obese, so differing from her parents and also a younger sister who accompanied the family. As a girl she was always anaemic, has some dysmenorrhoea, but loses little. Had measles five years ago, and gets a delicate throat and is hoarse when tired or cold, which she attributes



Miss S., July 25th, 1909.

Both true and modified biliary pigments abundant; no indican, but scatol abundant Purins 0.244. Urates abundant, large crystals of uric acid and some small oxalates and numerous pavement cells.

September 1st, 1909.

True and modified biliary pigments slight traces, and traces of scatol only. Purins 0.664. Urate of soda, rare crystals of uric acid, no oxalates.

to that disease. Suffers at times from facial neuralgi Mumps three years ago; has facial neuralgia since. Thre years ago suffered from rheumatic pains. Leads a very active life. Digestion is good; the bowels, once troublesome, are now all right. She is a small eater and deep sleeper. Mean blood pressure 130 and an arrhythmic pulse of 80. Physical examination showed no apparent cause for this.

The twenty-four hour urine analysis at the beginning of the cure is very interesting. The volume is 60 per cent. below normal, due, I believe, to the stupid superstition that privation of fluids helps to thin people. This old and unscientific doctrine still has a hard and dangerous hold upon the public, and I am sorry to say is still a fetish of many medical men. Only those who have constantly to diet people can appreciate the difficulties in overcoming popular prejudices when one has to directly traverse the orders of one of one's colleagues.

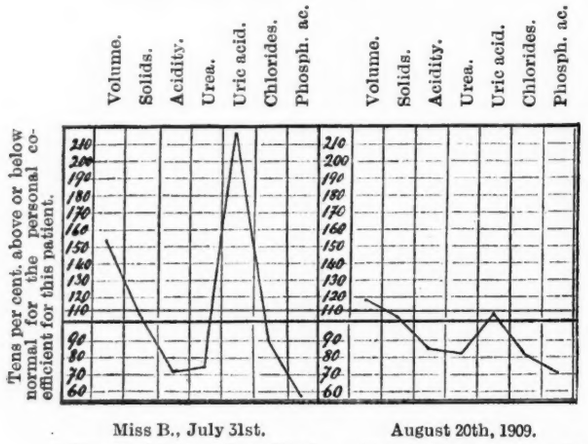
The patient's excretion of solids is 20 per cent. below normal, due in great part to an insufficiency of the vehicle water, but also to the low chloride assimilation. Acidity is 26 per cent. above normal, whilst urea is only a little above one-third of the normal amount, whilst uric acid is 30 per cent. above normal. The patient is a small salt eater, probably in harmony with a defective assimilation of salt. The phosphates are also 34 per cent. below normal. The urine is burdened by urates, uric acid, oxalates, biliary pigments, scatol, etc.

The second analysis, made some time after the cure had finished but with the patient otherwise living under exactly similar conditions, shows a curve much more approaching the straight line representing normal, though still showing defective assimilation, but to a much less marked extent. Biliary pigments and scatol had markedly diminished, but strangely the purin bodies were nearly tripled, probably from some exogenous source. The further diminution in chlorides was probably partly due to diminished intake and considerable losses by the skin, as the patient was doing several hours of tennis besides being massaged.

During the cure her weight fell from 79 kilos to 77.450, and continued to diminish, but I have no record of what it really was on her departure from Vittel. She declared herself perfectly well, much more capable of energy, and all her functions in good order.

In this case we have another example of perverted assimilation and defective metabolism where the part most assailed seems to have been the adipose tissues.

Miss B., aged 24, had malaria as a child, but has had no traces for many years. As a big girl had eczema very badly, but that has gone long since. Four years since had "neuritis" in the right arm, supposed to be due to tennis. No other region was involved. She is nervous, neuralgic, rheumatic, has some fullness of the eyes not amounting to exophthalmos, but no other thyroid symptoms. Her digestion is described as perfect, bowels fairly regular, and general health very good.



Miss B., July 31st.

Traces of true and modified biliary pigments, and also very slightly of scatol. Purins, 0.380. Urate of soda. Great numbers of epithelial cells.

August 20th, 1909.

Biliary pigments, true and modified, very abundant, as also scatol. Purins, 0.904. Urates and epithelial cells abundant.

The urine analysis before the cure proved to be one of the most remarkable I have come across. The solids were *en masse* about normal though the volume was 54 per cent. above. Acidity was 39 per cent. below normal and urine 36 per cent. below, whilst the amount of uric acid reached the astounding figure of 116 per cent. above normal, chlorides only just 10 per cent. below, and phosphates 41 per cent. below.

In the second analysis, a day or two after the cure was finished, the urinary curve approaches sensibly to that of normal, acidity is now only *minus* 24 per cent., and urea 18 per cent. below normal, a gain of 18 per cent. Uric acid has fallen practically to normal—*plus* 8 only. Still, it is too high for the amount of urea, and I think another week or ten days' cure would have been advisable.

Strangely, with this enormous output of uric acid her blood pressure was but 120 mm., with a capillary reflex of 3½, and pulse of 80. At the end of the cure, with the enormous debacle of uric acid, her blood pressure was reduced to 115, which I look upon as normal for my apparatus.

At the end of the cure she described herself as perfectly well and vigorous—fit for any undertaking.

The great increase of purins is again an illustration of the inscrutability of their amount in relationship to other physiological processes.

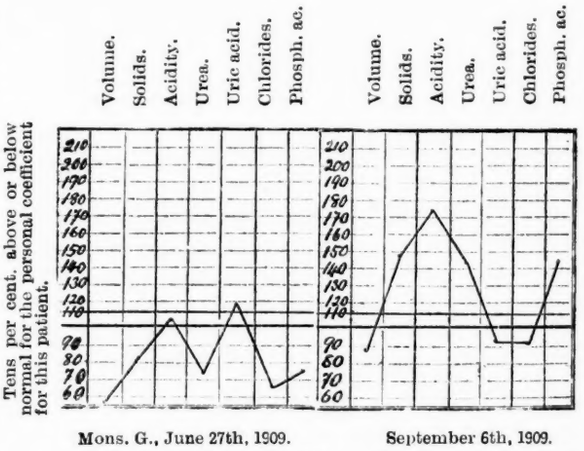
The next example I propose to put before you is interesting from several points of view. He is a typical example of that fat form of Frenchman that the English caricaturist delights in; secondly, he is mayor of the town, and has never drunk any other water but Vittel, though that appears to have been a most rare occurrence; lastly, he has been and is a most intense brain worker, always living under high pressure. He is a big and rapid eater, could not be called intemperate, but drinks heartily and takes no physical exercise. I have known him for years, and foresaw what was coming. He is jovial, good tempered, with his enormous charge of work as a busy lawyer, administrator of the town, and magistrate.

Mons. H. G. rises at 5 a.m., writes at his desk till 8 a.m., then takes café-au-lait one cup and a roll. He continues the work at his office till midday and then eats a good lunch with wine followed by black coffee.

In the afternoon does either office work or goes in his motor car to different clients of the region for business, and takes during the afternoon a black coffee and two or three glasses of beer.

At 7 p.m. he dines, usually with a soupe-au-lait, with much bread, nouilles, rice, and other farinaceous food. After dinner plays cards or other house amusements; during the season goes almost nightly to the theatre. Most of my consultations with him were in the *entre-actes*. He is a good sleeper, seven to eight hours, but a small smoker, and a great lover of sweets.

On June 22nd he consulted me at my house, having come to the end of his tether. He has been getting daily stiffer, less capable of exertion, gets sleepy and incapable of concentrating his mind, is always tired, and is rapidly increasing in weight—



Mons. G., June 27th, 1909.

Evident traces of glucose after defaecation with a lead salt. Biliary pigments, true and modified, well marked. Indican abundant. Scatol very abundant. Purins 1.147. Urate of soda very abundant, forming almost the totality of the deposit; a few cells, uric acid crystals in rosettes rather numerous and oxalate of lime fairly abundant.

September 6th, 1909.

No traces of glucose. True biliary pigments very slight. Modified biliary pigments well marked. Indican fairly abundant. Scatol abundant. Purins 0.770. Urate of soda, uric acid and oxalates but a fraction of what was found in first analysis.

he now weighs 103 kilos, his height being 1.68 metres, and his age 50. The family history is good, but several of his relations were fat.

His blood pressure was only 130 mm., but his heart muscle obviously failing. His capillaries are much dilated, giving him a very flushed and congested appearance.

The urine analysis is remarkable as showing the fluid starvation, the relatively high acidity, urea 26 per cent. below normal, uric acid 19 per cent. above, insufficient chlorides, and phosphates 25 per cent. below normal, the latter, no doubt, due to imperfect phosphatic assimilation, with the resultant failing brain activity.

He was ordered to do the cure, take either walking, cycling, or physical training exercise in the mechanotherapeutic institute. He was ordered a diet chiefly of meat, fish, and fowl, green vegetables, except the oxalate-bearing ones, fresh fruit and in compôte sweetened with saccharine, with the exception of grapes, bananas, figs, and other fruits of this kind. A little dry wine was allowed. Milk, butter, fats, farinaceous foods, sweets, disallowed.

For the first month, though fairly obedient for his dietary, he took his waters irregularly and did no exercise. His general state improved, but there was little diminution of weight. He bore badly electric light baths, feeling faint; but with shorter ones, and at a lower temperature, was able to continue.

Girths and Weights.

Date.	Chest.	Waist.	Hips.	Weights.
	Cm.	Cm.	Cm.	Kilos.
June 24th ...	112	116	117	105
July 4th	112	113	117	105
July 25th ...	109	105	113	101
September 8th...	104	106	107	95

The result in general health was remarkable; he has gained all his elasticity of movements, his mental activity and promptness, and describes himself as feeling much younger. His circulation is better, his blood pressure has fallen 5 mm.; his pulse is now 48, but strong and vigorous.

The urine analysis of September 6th is a curious study, but is, I believe, partly due to the large amount of animal food he was taking.

I have not given any example of a large number of cases of renal calculus and other renal and bladder troubles. These cases usually show marked improvement, and often their symptoms disappear for years or entirely, whilst others only show temporary advantage. I do not consider that these cases should be reported till two or three years after manifestations have disappeared.

Chronic nephritis and arterio-sclerosis are two groups of maladies that show marked improvement. Professor Huchard, who has devoted so much attention to arterio-sclerosis and subsequent heart failure, sends many dozens of patients here, with marked advantage. He and others who hold the toxi-alimentary view as to the main causation of that disease explain the action of the waters as being what I will call *vehicular*, or, in other words, their flushing effect. I quite agree that is an important element of their eliminating mechanism, but I think that there are two others that apply to both kidney and arterial degeneration. First, these non-chloride bearing waters lixiviate the excess of that salt out of the system in a dilute form, and by so relieving the kidneys of a heavy secretory work allow them time and energy to expel the toxic substances that their excessive chloride work prevented them from performing. In the next place the assimilable lime salts, to which so much attention has been drawn of late, may also take a therapeutic share in the effect.

Of neurasthenia I have always personally held the toxaemic view, and in all the cases of that disease treated by these waters I have had unfailing success. The group of ailments which we call neurasthenia is so polymorphous and requires such a long probation time to be declared as cured, that they are difficult to give striking examples of. This is all the more so that in most cases beyond the nervous and mental instability there are other organic disturbances requiring accessory treatment, and then the problem of which did the work becomes a very involved one. Such diseases as so-called gouty bronchitis as well as asthma, obviously two toxaemic diseases, show remarkable improvement and often cure, but here again the probation period should be not less than a year.

During several years' practice I have had a few young epileptics who came to accompany their parents. I was asked whether the cure would do them good, to which I replied that unquestionably for their general health it would be. In three cases my astonishment was great at seeing their fits diminish in number and disappear without bromides; in two others this drug became much more effective. In several other cases only slight improvement accrued.

What is the meaning of this? Is it due to the removal of toxic substances, to the presence of which many authors attribute the epilepsy, or is it due to the lixiviation of the sodium chloride, which Vidal and others have shown to bear some relation to these explosive motor storms?

I am sorry that the few opportunities of observing this disease at Vittel prevents any useful study of the effect of the cure in these cases. It would be well worth the while to send any such cases which might open up a valuable method of treatment for this troublesome disease.

UNDER the will of the late Baron Schroder, head of the banking firm of J. H. Schroder and Sons, Leadenhall Street, the German Hospital, Dalston, receives a bequest of £10,000.

SCARLATINA MALIGNA.

BY ARNOLD GREGORY, M.R.C.S., L.R.C.P.,
LONGSIGHT, MANCHESTER.

THE malignant or toxic form of scarlet fever is seldom met with nowadays, and a perusal of the literature in which it is described has convinced me that cases, such as came under my notice, are sufficiently rare to justify their publication. They occurred in the same family, and most of the other members suffered more or less severely from scarlet fever. The family consisted of seven children, with father and mother, who lived in a cottage in Selby. They were not robust, but much of the ordinary type met with in the working class districts of any town. The father and mother, both of whom nursed the children, escaped, as did also the eldest brother, who lodged outside; and a woman who assisted in the nursing was also unaffected. The remaining six children all suffered from scarlet fever, four of them in a severe form, three from the malignant type.

I was called on August 29th, 1905, to see the youngest child, Fred. T., aged 2 years. The illness had commenced two days previously, and I found him with mild degree of fever, slight sore throat, and a papular rash on the abdomen and limbs. The pyrexia lasted several days; some glandular enlargement developed in the neck, and later the tongue appeared somewhat to resemble the "strawberry" type. Improvement took place slowly with a considerable degree of anaemia and the development of numerous petechiae at the end of the third week. He eventually recovered completely. No strict isolation was carried out, as the diagnosis of scarlatina was not made until further developments made it quite clear.

On the evening of September 3rd Stanley T., aged 9 years, commenced suddenly with vomiting, abdominal pain, and diarrhoea. Twenty-four hours later, when I first saw him, he was acutely ill. The temperature was 104°, the pulse very rapid and feeble; there was great delirium; the tongue was thickly coated; urine and faeces, which were yellowish, watery, very frequent, and offensive, were passed under him. Death took place twenty-four hours later—forty-eight hours after the onset—without any rash being visible.

On the evening of September 4th Frank T., aged 14, began similarly with vomiting, diarrhoea, and great delirium. The tongue, at first thickly coated, became dry and very red and raw. On September 8th a typical scarlatinal rash appeared on the front of the chest, and on the following day it had spread to the abdomen. Melaena was also noted. The mouth remained very sore for long. The patient was so extremely ill when I first saw him that recovery seemed impossible. Contrary to expectations, however, he gradually improved and made a good recovery, desquamation occurring as usual.

Thomas T., aged 11, fell ill on September 5th, about mid-day. The onset, as in the two previous cases, was sudden, and the boy was prostrated and extremely ill from the start, with vomiting, abdominal pain, profuse diarrhoea, violent delirium, and high fever. The tongue, at first thickly coated, quickly became red and dry. The patient seemed absolutely overwhelmed by the poison, and succumbed on September 7th, after about thirty-eight hours' illness, no rash having appeared.

On September 11th, Beatrice Alice T., aged 16, commenced more typically with headache, vomiting, sore throat, and diarrhoea. The temperature was 102.4° when I first saw her, and a slight rash was visible on the chest; the tonsils and fauces were inflamed. The case ran rather a mild course, with desquamation.

Grace T. was the last to suffer. She had a fairly severe attack. Vomiting, diarrhoea, and a slight rash occurred in her case; after the subsidence of the diarrhoea the illness ran a fairly normal course.

Although the house contained several rooms, proper isolation was impossible. Stanley, Frank, and Thomas were attacked so suddenly and with such intensity, and when I first saw them they were so dangerously ill, that removal even to another room was not to be thought of, and they had to be nursed in the rooms in which they were at the time of onset. At that period, too, there was no hospital for infectious diseases in the neighbourhood to which the others, who were less severely affected, could be removed. The nursing, always unsatisfactory in infectious diseases when the services of properly trained nurses cannot be procured, had to be performed under most disadvantageous conditions.

Henoch, in his lectures on diseases of children, published in 1889, remarks that few medical men have not occasionally met with cases of malignant scarlet fever which have succumbed within ten or twelve hours from the commencement of the illness. The published statements of medical men in this country—at any rate, in recent years—do not bear out this view, but it must not be

forgotten that there is a tendency for the type of scarlet fever to become milder.

Dr. Foord Caiger, in his article on scarlet fever in *Allbutt's System of Medicine*, states that in London malignant scarlet fever is very rare. On the other hand, Dr. Claude Buchanan Ker points out that toxic cases formed approximately 0.6 per cent. of the total cases of scarlet fever admitted recently into the wards of the Edinburgh City Hospital. As, however, he includes in these statistics cases which die as late as the fifth day after admission, it seems probable that the majority are not of the same degree of malignancy as the cases already described. So far as the proportion of malignant to the total number of cases of scarlet fever is concerned the statistics of hospitals for infectious diseases are of little value, for of the most toxic cases many must succumb before it is possible to make the diagnosis and take steps to have them removed, while many others must be too ill to permit of their removal.

Dr. Ker* describes three varieties of toxic scarlet fever:

1. The fulminant type is very rare. Patients die with extreme rapidity, usually within twenty-four hours from the onset; cases are said to have occurred in which death resulted after a few minutes' illness. The attack commences very acutely and suddenly with intense headache, persistent vomiting, and profuse diarrhoea. The temperature is often high at first, perhaps sinking below normal in the later stages. The rash is absent, having scarcely time to make its appearance.

2. The ataxic form is not quite so severe as the fulminant, but in other respects is similar. Vomiting, diarrhoea, and delirium are severe, and the temperature keeps high. The rash appears late, or is atypical in character and distribution. The patient succumbs in from two to four days.

3. In the adynamic type the heart and circulatory symptoms are more prominent than the nervous. In this form also both vomiting and diarrhoea may be severe. The pyrexia is moderate in degree, and the rash may be well marked and possibly petechial. Death usually takes place on the fourth or fifth day.

In the forms just described the case is malignant from the beginning, but in other cases malignancy supervenes on an apparently simple attack.

Both of my cases which ended fatally belong to the first rather than the second group, while the case which recovered—and recovery is quite the exception—presented features more characteristic of the ataxic than the adynamic form.

It is undoubtedly true that in scarlet fever family susceptibility plays a part which is not evident in the other acute exanthemata. This fact is well illustrated in the series of cases narrated. Henoch, in the lectures previously referred to, remarks that "striking to me appeared the fact, noted undoubtedly by many other physicians, that if scarlet fever breaks out in a family and one of the children dies of the malignant form, very frequently also a second and a third child are taken off under similar conditions, and in this way whole families die out." It is worthy of note that in my cases the three patients so severely affected were all boys, who were nearest of age to one another, and were attacked with most startling suddenness on successive days. The child first affected, who evidently spread the infection, suffered from a mild form of the disease. It seems most probable, therefore, that the infection was not of great virulence but rather that the older boys possessed very slight powers of resistance, and were at once overwhelmed.

After puberty the susceptibility to infection diminishes. This fact also is well demonstrated in this series of cases. All the children who came into contact with the disease suffered, and most of them in a severe degree, while the mother and father and the nurse all escaped, in spite of the fact that the whole house was infected, and that they must have been constantly in the closest possible contact with the infection for many weeks.

Among other points of interest may be noted the late appearance of the rash in Frank's case. His illness commenced on September 4th, and it was not till September 8th that the rash appeared. Till then the nature and cause of the illnesses had not been clear. The diagnosis of scarlatina had been excluded when Fred's illness commenced, and ten days elapsed before the nature of the mysterious sequence of cases was made manifest, both deaths having occurred several days before. Most authorities agree that a definite diagnosis of scarlet fever is almost impossible before the rash appears. When the first toxic case was seen, ptomaine poisoning was at first suspected, and the help of the medical officer of health was sought. The absence of any source of such poisoning, and the occurrence of the other two cases on successive days sufficed to negative this condition.

It is only fair to say that I had had then only a small experience of scarlet fever. On looking back I feel that the first case should at least have been regarded with suspicion, and promptly isolated.

I desire to tender my thanks to Dr. G. D. Todd, of Selby, whose assistant I was at the time, for permission to publish the cases.

* In his textbook on *Infectious Diseases*.

RECURRENT MONSTRIPARITY.

BY

E. NAPIER BURNETT, M.D., M.R.C.P.Ed., F.R.C.S.Ed.,

NEWCASTLE-ON-TYNE.

Mrs. G., aged 35, a strong, healthy woman, gave birth to a full-time female child having a large cephalocele presenting from the vertex. The first pregnancy went to term, when a normal male child was born. The second pregnancy ended in abortion at the end of the third month; the fetus was anencephalic. The third pregnancy ended in abortion at the fifth month; the fetus (male) was anencephalic. The fourth pregnancy concluded at term, and is the subject of the present note.

On May 20th, 1910, when in her thirty-eighth week of pregnancy, the patient had a slight uterine bleeding which lasted a few hours. On vaginal examination no placenta could be felt, and the haemorrhage ceased with rest in bed.

The first stage of labour was somewhat protracted, the presenting part being high up and difficult to reach. The membranes could be felt as if being pushed to one side of the os by the presenting part, and on their being ruptured the presenting part progressed with each pain.

The second stage was delayed, no further progress being noticed, although the pains were vigorous.

I was asked to see the case in consultation. After the patient was anaesthetized and the bladder emptied I found it impossible to make out the nature of the presentation—it was a large soft rounded mass, the size of a fetal head.

At first I suspected the case to be one of ovarian dermoid obstructing labour, but the abdominal examination did not support this view. With the whole hand in the vagina I was able, on getting behind the mass, to recognize a vertex presentation with the tumour attached to it. Labour being still delayed, I incised the presenting mass and emptied out a large quantity of brain tissue, which showed both cerebral and cerebellar structure within the sac; the walls were $\frac{1}{8}$ in. in thickness. My fingers could now reach the cranial vault, and through an opening in the vertex I could insert three fingers into what appeared a normal cranial cavity containing brain tissue. There was no evidence of hydrocephalus either in the supernumerary cerebral structure or within the cranium. The labour terminated as a difficult forceps case.

The child was of female sex, with very large shoulders and short neck. The eyes were protruding and the nose flattened. There was very little liquor amnii, otherwise there was no associated malformation. The child lived about half an hour after delivery.

The third stage was completed normally, the placenta and membranes showed nothing unusual and there was no evidence of any adherent amnion.

The cephalocele was situate in the usual position of such tumours—namely in the mid-line in the region of the posterior fontanelle; the parietal bones were widely separated as if the two fontanelles were one.

Cephaloceles are comparatively rare, much more so than the anencephalic fetus. Ballantyne quotes Trélat as having had three cases in 12,900 labours, and in his own series of 325 specimens of antenatal deformity there were only eight cases of cephalocele, in contrast with forty-six of anencephaly.

There was nothing in the mental or physical condition of the patient throughout the whole of pregnancy to lend any support to the theories of external or internal maternal traumatisms.

Morgagni's theory, which seeks to account for these cephaloceles as being due to increased intracranial tension, especially in the form of hydrocephalus, seems every now and again to take on a fresh wave of popularity with the profession. In this case there was no evidence of such causation.

Examination of the specimen shows that it was of the nature of an accessory brain formation, lying outside, and distinct from, the intracranial cerebral tissue. Ballantyne[1] observes that

> we must not think of intracranial parts being pushed out at cranial apertures and so becoming extracranial; we must imagine parts of the anlage of the brain (that is, the cerebral vesicles and the undifferentiated membranes) lying originally outside what is to be the cranium and developing in their ectopic position: if it be asked what is the cause of the accessory part, we have no satisfactory answer, but the idea of a purely germinal (pre-embryonic) factor suggests itself.

A further interesting feature to be noted is the deficiency of brain tissue (anencephaly) in the two previous fetuses, and in the present case Nature seems to have gone to the other extreme in providing cerebral tissue much in excess of the normal.

REFERENCE.

[1] Ballantyne, *Antenatal Pathology and Hygiene*, vol. ii, 1904, p. 359.

TURPENTINE ENEMATA IN THE TREATMENT OF ENTERIC FEVER.

BY W. J. J. ARNOLD, M.B., B.CH. R.U.I.,
CIVIL SURGEON, ST. HELENA.

IT is probably not incorrect to say that none of the various methods of treatment have hitherto been successful in definitely controlling the course or limiting the duration of enteric fever.

The supreme importance of early recognition of the disease, the value of skilled nursing, regulation of diet, and attention to oral hygiene, must be accepted as first principles. In the further treatment, a measure employed at the Civil Hospital, St. Helena, during the past four or five years has resulted in a distinct shortening of the average duration of illness, and in a remarkable amelioration of all the symptoms. This particular measure consists in the administration, by the bowel, of turpentine and olive oil *from the first day of treatment*, and its regular use at stated intervals until the temperature has been normal for at least ten days. When the case first comes under observation, an enema of turpentine ʒj and olive oil Oj is given by a funnel and tube; and, the foot of the bed being well raised, the emulsion is allowed to find its way slowly up the bowel. On the next day, or the day after, the same quantities are repeated. In most instances the amount of turpentine may then be reduced to ʒss with olive oil ʒxv; this is administered on alternate days throughout the whole course of the disease, and continued until convalescence is fairly established.

A preliminary thorough cleansing of the bowel by a dose, or preferably small divided doses, of calomel, followed by castor oil, prepares the ground for the action of turpentine. The dose may be repeated more than once if necessary, alternating with the enemata. The average intestinal tract contains an enormous amount of toxic matter, and after this has been got rid of it should not be permitted to reaccumulate. The turpentine and olive oil effectually prevent any accumulation. Under the influence of turpentine abdominal fullness is perceptibly reduced, and very soon the abdomen presents a hollow surface, especially in the region of the iliac fossae and hepatic and splenic flexures. It should be our aim to maintain this condition. With such physical signs we may be sure that bacillary activity and toxin manufacture is at its minimum, and this opinion is confirmed by the entire absence of unfavourable symptoms. Headache is never complained of after the second day; the tongue cleans early and remains moist, and patients, as a rule, express themselves as feeling quite well, their most serious trouble being an early desire for "something to eat."

It is very rare to meet with diarrhoea in the type of enteric occurring here. In an epidemic amongst troops stationed in St. Helena in 1902 constipation was the rule. At that time a simple enema of soap and water was given every other day; quinine, gr. ij, in solution was given by the mouth every three hours. Delirium was frequently present, and in over a hundred cases the mortality was about 10 per cent. I was then doing duty as a civil surgeon at the military hospital. Since I have used turpentine in the way described I have never once seen delirium in enteric fever, though formerly it was rather the rule than the exception amongst the island inhabitants. I have for many years invariably given quinine gr. ij or gr. iij, dissolved in hydrochloric acid, by the mouth, and believe firmly in its value both as a heart tonic and a bactericide. Amongst the last 30 cases treated as I have outlined there was one death.

The patient was a boy aged 17, one of four cases which came from the same house. He had a sharp haemorrhage the day before his admission to hospital, when I first saw him, and had been on ordinary diet up till that time. His abdomen was much distended, and though he improved markedly in the interval, he died some days after from perforation.

I regret that calomel—though in small doses—was given in this case, and I would not advocate its use when the disease is thought to have gone beyond the first week.

The two charts are (1) of a brother and (2) a sister of this boy. The girl stated that she had only felt ill for two days before admission. She was very drowsy, and had severe headache, but next day this had disappeared. This chart (2) shows clearly the beneficial influence of turpentine in the course of the disease. The case promised from the initial condition to be a severe one; yet, though no sponging or antipyretics were used, the temperature came steadily down. Quinine was given in all cases, but in small doses is not an antipyretic.

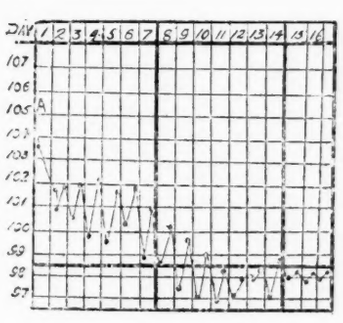


Chart 1.—G. T., aged 20. Ill some days before admission. A, On admission.

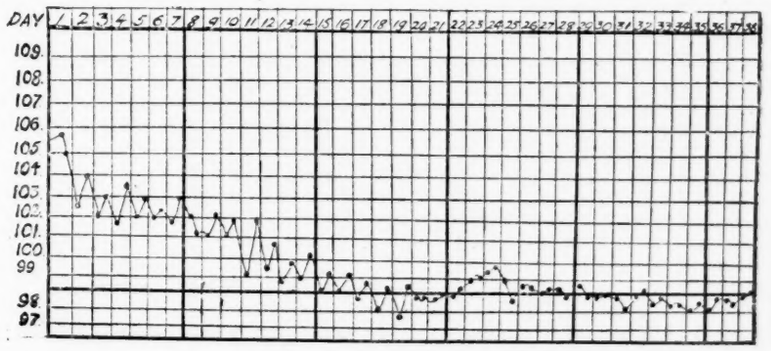


Chart 2.—S. T., aged 22. Ill two days before admission.

The longest duration of fever was seventeen days; many cases touched normal in a week from the commencement of treatment, with no subsequent rise, and the average was about twelve days. There were no relapses, and alcohol was not indicated in any instance.

Vaccines may some day supersede other treatment. Until then, I recommend a well-known drug, used on a new plan, the adoption of which enables one to treat the disease with a confidence other methods fail to impart.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A FATAL CASE OF HAEMOPHILIA.

A BOY of 4 was brought to the hospital, and handed in by a drunken father without any history. Blood was running freely from the mouth, and when this was opened it was seen that there was a cut on the front of the right side of the tongue, about one-third of an inch long, and not very deep. I put a stitch in to draw the edges of the wound together, but as this did not stop the bleeding I had the child put under chloroform, and caught the cut ends of the bleeding vessel with pressure forceps. This seemed to stop the haemorrhage, but on putting two or three stitches in free oozing took place from the needle punctures. The bleeding went on uninterruptedly till a few hours before death, which took place about forty-eight hours after admission. We tried to get a continuous pressure on the tongue, but found this impossible on account of the resistance of the child. Calcium chloride in large doses was given. It was suggested that the carotid should be ligatured, but this was held to be inadmissible on account of the necessity of making a fresh wound, where there would be fresh haemorrhage to control.

We could not get much in the way of a history from the parents, but they said the two other children, both boys, were "bleeders." The child who died had had two previous attacks of severe haemorrhage, one from a tiny cut in the finger, which had nearly proved fatal.

This short note illustrates one or two well-known points in connexion with the disease. Thus about 90 per cent. of the cases occur in males, and over 50 per cent. die before they reach 7 years of age. The tendency usually appears early in life, and the first haemorrhage rarely kills.

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Assistant Surgeon, Royal Alexandra Hospital for Sick Children, Brighton.

ARTIFICIAL RESPIRATION IN NEW-BORN INFANTS.

THE writer was rather sorry to see on page 1194 of the BRITISH MEDICAL JOURNAL, May 14th, 1910, a description, with figures, of the dirty and risky method introduced by Schultze in 1871; and he would like to call attention to a note on the subject by Dr. R. C. Buist, of Dundee, which appears in the *Transactions of the Edinburgh Obstetrical Society*, vol. xx, p. 77, 1894-5. Buist says, "Standing in a well-cleared space in the midst of a small room, whose other denizens were withdrawn into the corners, my feet planted well apart and arms extended, I taught the neonatus to perform a series of grand circles, while the meconium distributed itself in trajectories for which the room and its inmates, including the physician, formed a comprehensive recording surface. Another like experience reduced my traditional devotion to Schultze's method, until I found that all its characteristic advantages can be got in a less impressive way, of which, however, the onlookers cannot relate that 'The bairn was so bad 'at the doctor had to throw't o'er his head.'"

Apart from the inconvenience indicated, Schultze's method is not free from risk. When Ahlfeld himself was demonstrating it one day, with a presumably healthy infant, the child suddenly died. Runge recorded "Haemorrhages in Lung and Pleura and in Adrenals" (*Charité Ann.*, 1882). Winter described "Blood in Peritoneum, Fracture of Rib, Rupture of Liver, and Dislocation of Spleen (enlarged)" (*Deutsch. med. Woch.*, 1888, p. 595). Gebhard attributed a traumatic haematothorax to the method.[1] Buist himself records a fractured clavicle. The writer once produced paralysis of one arm which lasted for two years in a child upon which he did "Schultze" off and on for one and a half hours, and has several times seen the slippery infant shoot from the hands of midwives who were attempting this method. If all the accidents which have occurred had been recorded the Schultze method would probably have been given up long ago. Silvester's method has the disadvantage of employing two persons, for one is required to fix the feet while another moves the arms. Buist's own method he describes as follows:

I place the child face downward on the palm of my left hand with the head away from me. The upper and lower parts of the body and the limbs are thus dependent over the edges of the hand. I then roll the child over, and at the same time transfer

Fig. 1.—Buist's method—position of expiration.

Fig. 2.—Buist's method—position of inspiration.

it with a slight throw to my right hand in the dorsal position, the legs and arms being again dependent. It is then again re-transferred to the left hand in the first position and the whole movement is repeated twelve to sixteen times a minute.

The efficiency of this method was proved to be very high by experiment with a dead cat in whose trachea was a cannula connected with a Marey's tambour, which recorded the inspiratory and expiratory movements on a revolving cylinder.

The writer has used and taught Buist's method for many years and has found it effective, clean, and free from risk. It is easily learnt and can be continued for a long time without causing fatigue. The attached photographs taken at St. Mary's Hospital, Manchester, well illustrate the method.

Manchester. W. E. FOTHERGILL.

FOREIGN BODY IN INFANT'S THROAT.

ON May 24th, 1910, a mother consulted me regarding her child, 11 weeks old. The history was that on May 1st, while the infant was being nursed by a sister aged 10 years, it suddenly had a fit of coughing and choking which lasted for over an hour. The child then fell asleep, but from this time the child had what the mother termed "something peculiar about its breathing," and sometimes vomited its food. She sought advice in the interval, and was told that the child was all right, as it could not live so long with a foreign body in the throat. A few days before I saw the child a shining object was noticed at the root of its tongue, which the mother thought was a "bubble."

On examining the throat the guard of a safety pin was just visible a little below the uvula, protruding from behind the tongue. While getting my instruments the pin disappeared; but on inverting the child and vigorously shaking it was again brought to view. I put the child lightly under chloroform, and with the aid of a pair of dressing forceps and the index finger of the opposite hand was able to extract a very rusted, open safety pin, a little over 1 in. in length. The pin formed a triangle, of which the apex was in the larynx. The base of this triangle was ⅞ in. long. The point of the pin was on the left side.

Is it possible that this pin could have been in the child's throat for three weeks with so little discomfort? The little sister could give me no light, and all the mother knew was that she had had two similar pins in the child's clothing, one of which was lost some time before. I state the facts for what they are worth. The pin being open prevented its going further down; and for a child of this age to cough it up was out of the question. Moreover, the point may have been caught in the pharyngeal wall, as the glands in the left anterior triangle were enlarged. I have seen the child at intervals since, and it seems nothing the worse.

Accrington. GEORGE W. KNIPE, M.B., B.Ch.

[1] *Zeits. f. Geb. u. Gyn.*, 1894, Bd. xxx, 2.

FRATERNAL PSEUDO-HYPERTROPHIC PARALYSIS.

WHEN I was working in Natal some three years ago I observed three interesting cases in the same family of pseudo-hypertrophic muscular paralysis with its sequelae. On September 1st, 1907, when I was medical officer at Stanger, an Indian asked me for medicine for a friend who had not walked for years, adding that the man had two brothers, one of whom could just walk and the other could not. He also remarked spontaneously that at one time their leg muscles had been very large, but at the same time of little use. Next day I made a special journey of about thirty miles to Glen Dale Valley.

CASE I.—Chinnia, aged about 22, said that for five years he had been unable to move from his seat, and that the disease had been coming on since childhood. He had an enormous goitre on both sides; the isthmus also was greatly enlarged, and there was a firm nodule, about the size of a marble, in its centre. This goitre, he said, gave him no trouble. Looking at him generally, he appeared to consist of nothing but skin and bone. He apparently had no deltoid or upper or lower arm muscles except in the slightest degree. His legs were flexed and fixed with the knees in front of the axillae, and looked more like sticks than limbs; apparently all the leg muscles were atrophied, the flexors of the knee less than the extensors. The muscles of his shoulder girdles were atrophied, so that when lifted up his body appeared to drop through his shoulders. The abdominal muscles in proportion were slightly affected. Reflexes were absent. Sensation and the functions of the bladder and rectum were normal. He could just waggle his feet a few inches forwards and backwards on the ground, could move his arms a few inches, and could grasp my hands feebly; the hand muscles were in a better condition than those elsewhere. He was very cheerful and perfectly sensible. The bones were very tender to percussion, especially near the joints, no doubt on account of the loss of muscular covering. There was tuberculosis of the left lung. He died a few weeks later.

CASE II.—Madara was the next brother, aged about 18, and he said he had not walked for three years, and that the disease had been advancing since he was an infant. His condition was practically the same as that of his brother, with perhaps a little less atrophy; there was no goitre.

CASE III.—Muthukarappau, the youngest brother, walked with his legs crossed one in front of the other and with a definite shuffle. He lay down with a rush, and when asked to get up again turned over on his stomach and performed the classical feat of climbing up himself. He had enormous calf muscles, exceedingly hard; his thighs also were large, but not in the same proportion. His arms were small and weak and his grasp feeble. There was no enlargement of the thyroid; reflexes were absent; sensation and the function of the bladder and rectum normal. He complained of nothing but his inability to get about easily, and, in fact, he was a very bright specimen of an Indian boy. There was marked tendency to foot-drop; the peronei showed no apparent wasting. The several neighbours round reiterated the statement that later on he would be just like his brothers, and that they were once like him.

I could obtain no history of any other members of the family being so afflicted. The father died some years before either from pneumonia or phthisis. The mother was quite healthy, and there had been no other children. I intended to go and see them again, but was unable, and I do not know what has since become of them.

CHARLES J. BATTLE, L.R.C.P., M.R.C.S.

Boksburg, Transvaal.

DISLOCATION OF THE NECK DURING SLEEP.

IN January, 1910, while in Nubia in connexion with the Archaeological Survey of that country, I was asked by a native to examine his son's neck, as it had recently become twisted and painful. The boy, about 8 years of age, had a very thick, short neck; his head was tilted to the right, and also rotated in the same direction. Any attempt to turn the head was accompanied by pain; the muscles on the left side of the back of the neck were extremely tender, and there was a definite lump, which I took to be contracted muscles, slightly to the left of the middle line. The father said the condition had lasted about two weeks. A liniment was given, with directions as to how to rub the tender part.

Soon after this episode I received the *Medical Review* (January), in which was an article on a paper by F. M. Sherman (*Journal of the American Medical Association*, June), entitled Dislocation of the Neck during Sleep. Sherman had seen altogether five cases of this condition, and suggested that some of the cases diagnosed as stiff neck may be examples of it.

About three weeks later I found the father and son waiting for me. The father said that the "medicine" was of no use, as he had rubbed it on every day, but with no effect. The boy was examined again, and I then remembered the article. The torsion of the neck was, if possible, more marked than previously, and the tender lump of muscles was still present, but on palpating deeply over this lump I thought I could feel some bony irregularity in the neighbourhood of the articular processes on the left side of the neck. I could not feel the spines of the cervical vertebrae at all, owing to the fatness of the neck, and also probably on account of the boy's age, but judged the displacement, if such it was, to be about the middle of the cervical series of vertebrae. The head was quite immovable, and the attempt to bring it into the middle line caused great pain. I explained to the father that perhaps one of the bones of the neck had got slightly out of place, and that it would be necessary to give the boy chloroform. He agreed, and on being asked if he knew how it might have happened, he replied in Arabic, "Who knows? perhaps it came while he was asleep."

Having ascertained that the boy had had no food for some hours, he was placed on a table in a tent, and when fully under the anaesthetic he was dragged to the end of the table so as to allow his head to hang over the edge. Four native sailors were then requisitioned to hold him, and, placing one foot against a leg of the table, I pulled strongly and steadily backwards, keeping the head still in the twisted position, and then rotated it into the middle line, as described in the article. The boy was pushed back on to the table, and it was then found that the lump had entirely disappeared in the neck, and that the head could be turned easily to the left. He was kept lying down for an hour to recover from the anaesthetic, and was seen again before he went home. He could then turn his head at will quite easily to either side without pain, and did not even complain of pain when the originally tender muscles were palpated.

DOUGLAS E. DERRY, M.B., Ch.B.,
Anthropologist to the Archaeological Survey of Nubia.

OEDEMA FROM CARDIAC DISEASE.

THE annexed photograph is a somewhat imperfect representation of the legs of a patient seen by me shortly before his death. The extent to which these legs were swollen would hardly perhaps be gathered from the picture. The left leg, which was the more swollen of the two, measured at its thickest part 33 in. in circumference, while the dorsal surface of the foot was so oedematous as almost to conceal the toes. Both legs were red and inflamed-looking. The patient died a few days after I first saw him, and meantime a large amount of fluid had oozed out of the tissues of his legs. He was a man, aged 32, who had been an imbecile from his birth, and when I saw him the oedema of the legs had been increasing steadily for some six months. It was localized to the legs, the rest of the body being entirely free. Its primary cause was cardiac disease, but a secondary cause of importance was that, owing to his mental condition, the patient could not be persuaded to lie down. Hence, any fluid with which the heart was unable to deal gravitated into his legs; this accounts for the immense swelling in this locality and the absence of dropsy elsewhere. I have to thank Dr. Duncan Clay of Brockley, in whose charge the patient was, for permission to put on record this curious outcome of combined cardiac and mental disease.

London, S.W. F. R. PROCTOR-SIMS, M.R.C.S., L.R.C.P.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ENGLISH PRESBYTERIAN MISSION HOSPITAL, SWATOW, CHINA.

(By G. DUNCAN WHYTE, M.B.Edin., D.T.M. and H.Cantab.)

IT is rare to meet with three cases such as those hereinafter described in the course of a single morning, but, to those familiar with conditions of work in the Far East, it will not seem so strange that this occurred in China and in a mission hospital.

1. *False Aneurysm.*

A man, aged about 25, received a bullet wound in the left side of the neck; the bullet had penetrated till it lay under the skin on the right side. Almost immediately after the accident a "soft swelling" formed on the right side of the neck, but under native treatment by local applications, internal remedies, and rest for three or four days this subsided, and he resumed his duties as a farmer. After a few days the swelling again became noticeable, and continued to increase in size, but he paid no attention to it. Three weeks later, when it had spread to the left side of the neck, he came to Swatow for advice.

Fig. 1.—A, Entrance of bullet; B, position of bullet.

On admission he was found to be suffering from an aneurysm. The photograph shows the general form of the swelling, as well as the position of the bullet, and of the scar of the entrance wound. The swelling exhibited well-marked expansile pulsation. The pulsation of the left carotid above the aneurysm was quite clearly marked, while on the right side it could only with difficulty be made out. One felt justified, therefore, in concluding that the bullet on entering had missed the carotid on the left side, but had lacerated the wall of the right carotid. The patient's too early resumption of work caused the freshly-formed cicatrix in the arterial wall to give way, with the results depicted.

The patient was unwilling to allow the aneurysm to be operated upon, but wished the bullet to be removed. This was successfully done by my colleague, Dr. Lyall, and the wound healed by first intention.

2. *Dextrocardia.*

This patient was a little girl, to whom my colleague's attention was originally directed on account of cyanosis of the ears, nose, and finger-tips. The first thing I noticed on examining her was the condition of dextrocardia, but auscultation revealed the presence of a patent ductus arteriosus.

In South China, where in hot weather fully 50 per cent. of the population are coatless, it should not be difficult for one to discover cases of dextrocardia, yet in spite of the fact that I have been especially interested in this condition ever since my student days, and have looked for the apex beat on every exposed chest I have seen for six years in China, this is the first time I have met with this condition.

It is interesting to note a further singularity in this case. It is not a case of "transposition of the viscera," but of dextrocardia. Cases I have seen at home both *intra vitam* and *post mortem* have shown transposition of all the viscera—spleen, liver, stomach all being reversed. In this case only the heart (and lungs?) were transposed. Carpenter[1] says of this condition: "Not only is it rare, but it must be viewed with suspicion, because the diagnosis has been made on some few occasions, and has not been confirmed by autopsy." Because of this "rarity" and "suspicion" I was glad to have my opinion confirmed not only by my colleague, but also by Drs. Morland and Mansell. The picture shows the cardiac and liver dullness, also the outline of stomach and spleen. The positions of the apex beat and of the area of maximum intensity of the murmur associated with the patent ductus arteriosus are also shown.

Fig. 2.—Dextrocardia.

3. *Macrodactyly.*

The photograph speaks for itself. At birth the toes were fused and somewhat enlarged but the fused toes have grown much more quickly than the rest of the foot.

Fig. 3.—Macrodactyly.

Similar cases of macrodactyly have been met with before in this region; some have been operated upon, but this patient refused operation.

Reports of Societies.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

W. WARD-SMITH, F.R.C.S., President, in the Chair.

Tuesday, June 21st, 1910.

MR. PHILLIPS showed an anencephalic monster. Dr. S. LODGE reported a case of *Suppuration in the middle ear*, complicated by extradural abscess and thrombosis of the lateral sinus. The patient had had a discharge from the right ear for two years, and at the end of May had influenza. Since then he had been drowsy and irritable and had daily rigors. The ear discharged profusely, but there was no tenderness over the mastoid or jugular vein. The mastoid was opened and pus found; also from the lateral sinus. The middle cranial fossa was then explored, and found to contain an extradural abscess. The internal jugular vein was then exposed and divided; 40 c.cm. of antistreptococcus serum were then injected. The patient made steady progress to recovery. Mr. GOYDER, in a paper on the *Treatment of hare-lip*, said that the ordinary operation left much to be desired. A straight scar was to be avoided, since it was obvious that a hare-lip operation

[1] Wightman Lecture, BRITISH MEDICAL JOURNAL, October 16th, 1909.

had been performed. Almost any irregularity of the suture line was preferable to this. In all cases, even when the cleft was partial, particular attention was to be directed to the nostril, and the suture line in this region would be stronger if it did not correspond with that of the lip. Accurate apposition at the red margin of the lip was to be obtained, and allowance was to be made for subsequent contraction of the scar without, if possible, leaving an unsightly result at the time. Each case should be treated on its own merits, some modification of Owen's operation being perhaps the most generally applicable. The chief fault of most operations was that the free edge of the upper lip was much shorter than that of the lower. Much ingenuity was required to prevent this. The author had elaborated several methods for dealing with this difficulty, but time did not permit of their description.

Reviews.

TREATMENT OF FRACTURES BY MASSAGE AND MOVEMENT.

THE concise summary of the treatment of fractures by massage and movement,[1] in which LUCAS-CHAMPIONNIÈRE reviews his many previous publications on the subject, will be read with great interest both by the many already familiar with his method and his claims, and also by the even greater number who have been forced into uneasy disquiet by the revelations of radiography and the somewhat rude reflections of law-court statistics upon the efficiency of time-honoured means of treating broken bones. To a remarkable degree the ideas for which the author has stood these twenty five years have gained sway. It cannot be said, however, that in its entirety, his method has been accepted by the surgical world. Of the paramount importance of early passive movements of the joints, and of preserving the nutrition of the muscles, there are not two opinions. Few will deny that a great many cases of fracture do not imperatively require rigid immobilization; many, perhaps most, surgeons acknowledge by their practice that impaction with a minimum of deformity is better left alone. Is it only because of their very general lack of personal familiarity with the technique of massage that they do not find their cases of severe deformity amenable to the soothing and relaxing influence of effleurage? If simple stroking movements of the facile hand have the potent analgesic influence, the swift quiescent effect upon contracted muscles that seems to be the case with Lucas-Championnière and his immediate pupils, how is it that half the world has not adopted the method with a whole heart? The surgical world was never more eager for a new thing. At least none can plead ignorance in extenuation any longer. Here, in three hours, with a minimum of trouble, one can roam the entire field of fractures and find instruction even in some detail. Two hundred and fifty pages suffice for history, theory, and practice of the method. It will be found, quaintly enough, that the author does not mean quite all he says. When he answers his own question as to what fractures are suited to his method by the laconic "all," he means "all with a good many exceptions." Then, of course, though he does not reduce his deformities with brutal violence and rivet his splints into rigidity, he does cajole his fragments into line, and he does support the injured part on a ghostly splint. Every reader of this book will find himself to some extent a convert in advance, and whatever the reservations, most readers will subscribe a great many of the tenets when they reluctantly lay down the volume.

Mr. ALBERT J. WALTON'S book on *Fractures and Separated Epiphyses*[2] is not one that would recommend itself to Lucas-Championnière, but it must be confessed that it affords an excellent account of actual practice in a large London hospital to-day. The author is fully conversant with the methods of the great French surgeon, and represents his views very fairly, but he relegates the exclusive use of mobilization and massage to the same extremist category he reserves for the exponents of unashamed universal operating. For students who are presenting themselves for examinations, and for those about to take up a resident post in a hospital, this is an excellent little book. The general remarks about fractures, their pathology, and their complications, are an echo of everyday teaching in the wards. The account of individual fractures is clear, concise, and adequate; there is just enough about prognosis, and the directions for treatment are sound. The lesions are well illustrated by good radiograms of cases under the care of members of the London Hospital staff. If anything is wanting, it is a little more detail about the preparation and application of plaster-of-Paris, gutta-percha, poroplastic, and other media for moulded apparatus. In a book that deals with separated epiphyses one might expect more than passing mention of the deformities likely to result after displacement of such an epiphysis as that at the lower end of the tibia. It would be easy to find a few points of disagreement with the author. For example, it surely cannot be seriously contended that it is a satisfactory plan to rely, for preventing the leg being pulled down the Liston long splint by the extension, on "the pressure of the end of the splint in the axilla," even if the body roller does take part of the stress. Such blemishes, however, are few and far between, and we can confidently predict that this book will be very popular with students. It should be mentioned that fractures of the skull and spine are not included in the text.

[1] *Précis du traitement des fractures par le massage et la mobilisation.* Par le Dr. Just Lucas-Championnière. Paris: G. Steinheil. 1910. (Cr. 8vo, pp. 271. Fr. 3.50.)

[2] *Fractures and Separated Epiphyses.* By Albert J. Walton, Surgical Registrar, London Hospital. London: E. Arnold. 1910. (Demy 8vo, pp. 288; illustrations 101; 10s. 6d.)

PROTOZOOLOGY.

IN the preface to his treatise on *Protozoology*[3] Professor CALKINS states that interest in the protozoa has of late centred mainly in the practical side, until, to many biologists and to most medical men, protozoology implies the science dealing with pathogenic protozoa. The author points out, however, that protozoology has a broader scope than this, and states it to be one purpose of his book, "to check, if possible, the limiting tendency, and to point out again the important part that the protozoa play in the problems of modern biology." After reading this statement the medical man may think that this is a book in which his special requirements receive little attention; but a glance at the list of contents shows that this is not the case, since of the ten chapters composing the entire book, the fifth deals with parasitism and the last five chapters with pathogenic protozoa solely. The first four chapters, on the other hand, are occupied with the discussion of the organization, activities, and general biology of protozoa, and so form a useful introduction to the current knowledge of these matters, making the reader acquainted with the significance and application of the terms used in the more special parts of the book.

The five chapters which Professor Calkins devotes to the pathogenic protozoa deal respectively with spirochaetes, trypanosomes, other pathogenic flagellates, haemosporidia, and rhizopoda. The spirochaetes are regarded as "an intermediate group between the bacteria and the protozoa, but leaning more toward the latter." The parasites of kala-azar and oriental sore are referred by the author to the genus *Herpetomonas*, under the specific names *H. donovani* and *H. tropica* respectively. The chapter dealing with the trypanosomes gives a general review, necessarily brief, of our knowledge of this important group of parasites. The author does not share in the scepticism which has grown up with regard to Schaudinn's famous researches upon the blood parasites of the little owl (*Athene noctua*), and more especially with regard to his conclusion that the halteridium and the trypanosome of this bird are two phases in the life-cycle of the same organism; but the statement that Schaudinn's work was "fully confirmed" by the brothers Sergent is hardly correct. Nevertheless, Calkins does not go so far in his conclusions as the neo Schaudinnian school, and considers it premature to separate the haemosporidia from the sporozoa in order to place them amongst the flagellata.

[3] *Protozoology.* By G. N. Calkins, Ph.D., Professor of Protozoology in Columbia University, New York. New York and Philadelphia: Lea and Febiger; and London: Baillière, Tindall, and Cox. 1909. (Roy. 8vo, pp. 349; 125 text figs., 4 coloured plates. 15s.)

Professor Calkins's chapter on the pathogenic haemosporidia gives an account of the genus *Babesia* (*Piroplasma*) and of the malarial parasites, the latter illustrated by three coloured plates. The author favours the view of Wilson and Chowning that Rocky Mountain spotted fever is due to an organism named by these investigators *Piroplasma hominis*, and believed to be transmitted by ticks. Under the heading Rhizopoda, first the amoebae and their relation to dysentery are discussed, then the problematic parasites of rabies ("*Neuroryctes hydrophobiae*") and small-pox ("*Cytoryctes variolae*"). Much interest attaches to the account given of these parasites, of which the nature and even the existence is in dispute. Calkins formerly studied the small-pox problem in great detail in collaboration with Councilman and others, and described as phases of a parasitic life-cycle certain cell enclosures which others have regarded as of secondary nature, mere products of the degeneration of the cells and their nuclei. A coloured plate and a number of text figures are given in illustration of these bodies, and the author states his strong conviction that both the Negri bodies (*Neuroryctes*) and the Guarnieri bodies (*Cytoryctes*) are of protozoan nature and show affinities with *Entamoeba* and other rhizopods. The chapter on parasitism (Chapter V), after a general account of protozoan parasites, pathogenic or otherwise, and their life-cycles, concludes with a discussion of the cancer problem in relation to protozoa, with figures of cell inclusions in human cancer. The author is of opinion that while the cell inclusions in question "cannot be interpreted as organisms, it does not follow that real organisms are not present"; and considers that there is no reason for abandoning the hypothesis of the parasitic causation of cancer, not at least until we know more about the still invisible organisms of yellow fever and many other diseases.

Enough has been said to show that medical men will find plenty to interest and instruct them in Professor Calkins's book, though written mainly from a zoological standpoint. The numerous illustrations are very well drawn and executed, and constitute a very useful and attractive feature of the book.

Dr. F. O. STOHR went to the Katanga as Assistant Medical Officer to the Union Minière, and on the expiration of his contract undertook some travelling and observing on his own account, the results of which are described in his *Notes on Human Trypanosomiasis in Katanga*.[4] He gives two maps to indicate as accurately as possible in the present state of knowledge the regions free from, and infested with, tsetse flies, and, in the latter case, the areas in which sleeping sickness is endemic, and those in which the disease has not yet appeared. Unfortunately the greater part of the country has not been surveyed from this point of view, and the author comments on the false economy which has prevented the proper mapping of the fly and the disease, and complains that the Administration has allowed sleeping sickness to spread unchecked. In addition to the survey of the distribution of the tsetse fly and of sleeping sickness, a number of interesting data are given concerning the habits of the fly and the symptoms and diagnosis of the disease. The apathy of the natives, even when infected, makes it very difficult to get patients, or to carry out preventive measures except under compulsion. It is remarked, with regard to gland palpation, that trypanosomes are often to be found in glands which, without puncture, would not even be marked as doubtful. In one case in which a young woman had on one side a very hard "bean," on the other a very elastic "pea," the bean proved to be an old fibrous gland without cells in the juice, while "the pea had trypanosomes half a dozen to the field"; the blood in this case showed no trypanosomes. Auto-agglutination of the blood was not found in patients seemingly healthy, but in gland juice containing trypanosomes mixed with blood, clumping of the red cells was sometimes observed when blood drawn from the finger showed the normal arrangement of the corpuscles. The clumping is stated not to be noticeable unless trypanosomes are easily found, hence the phenomenon is not likely to assist diagnosis. The author is to be commended for the energy which has prompted him to undertake an exploration of this kind without aid or remuneration, and his investigations have yielded a number of interesting and important results.

[4] *Notes on Human Trypanosomiasis in Katanga*. By F. O. Stohr, M.B., B.Ch.Oxon. Published privately. (Demy 4to, 16 pp.; 2 maps.)

HYGIENE IN THE WEST INDIES.

THE reputation of Sir RUBERT BOYCE as an expert in pathology and as one of the protagonists in the crusade against insect-borne disease in the tropics, invests his last book, *Health Progress and Administration in the West Indies*[5] with a special interest. We may say at once that a cordial reception is sure to await this captivating volume, not only on account of its author's eminence, but also because of its own inherent worth. It is the outcome of a visit paid to the West Indies in 1909, and records the progress of sanitation and hygienic administration in many of those important islands. The story which the author unfolds constitutes a brilliant testimony to the efficacy of the preventive methods which have been adopted as the outcome of the scientific investigations of many well-known pioneers in the domain of tropical disease, and relates triumphs in the battle against sickness and death which are unsurpassed in the history of medicine.

Sir Rubert Boyce may well say that "there is a strong flavour of romance and fascination about the history of yellow fever in the West Indies and on the Spanish Main," because, whereas in former times the disease swept off within a few weeks multitudes of men, women, and children living in the area of its prevalence, it is now possible, by suitable measures, to lessen its ravages to such an extent that it is legitimate to-day to regard yellow fever as a preventable and languishing malady. Yellow fever depends wholly upon the intervention of the *Stegomyia*, just as malaria can only be propagated by the intermediary of the *Anopheles*. The complete triumph of man over insect pests, not only in the West Indies but throughout all tropical countries, would make them ultimately safe and healthy for human habitation by freeing them from the risks of epidemic diseases which it is now certain are conveyed by no miasmatic or climatic influence, but by the bloodthirsty habits of germ-carrying insects. Sir Rubert Boyce gives detailed accounts of the means taken to deal effectively both with these undesirable insects and their larvae in Barbados, Grenada, St. Vincent, St. Lucia, Trinidad, British Guiana, Nassau, and British Honduras, and particularly directs attention to some of the factors which have conspicuously contributed to making the West Indies healthier. He refers to the difficulties that have been encountered in surmounting prejudices which still maintain a strong hold on the minds of many local authorities; he calls attention to the uncertainty that often attends the diagnosis of early and mild cases; he submits convincing evidence to prove that yellow fever, like all other communicable diseases, follows the line of trade routes; and he advocates the necessity of disseminating knowledge of the method of transmission of insect-borne diseases by teaching in the schools, organizing public lectures and demonstrations, invoking the assistance of the press, and generally using every legitimate means for bringing home to the various classes of society the principles of the modern doctrines of sanitation and the need for the destruction of mosquitos and other germ-carriers. In Chapter IX the author gives a graphic account of the outbreak of yellow fever in Barbados in 1907–1909, which he investigated on the spot. As regards the *Stegomyia calopus*, which is the carrier of yellow fever, he points out that, as compared with the malarial-carrying *Anopheles*, it is essentially a town and not a marsh dweller. It breeds in the clean water tanks in the yards of houses, and is therefore often spoken of as the "cistern mosquito." It also breeds in tins, shells, or other receptacles capable of holding water, such as are commonly found in rubbish heaps, badly-kept yards, etc., and its larvae may even make their appearance in flower glasses in dwelling-rooms

[5] *Health Progress and Administration in the West Indies*. By Sir Rubert W. Boyce, M.B., F.R.S., Professor of Pathology, University of Liverpool; Dean of the Liverpool School of Tropical Medicine, etc. London: John Murray. 1910. (Med. 8vo, pp. 343. Illustrations 47; map 1; appendices 11; 10s. 6d.)

if the water in them is allowed to remain undisturbed for a few days.

From beginning to end the book is full of interest, and its perusal may be warmly commended, not only to members of the medical profession, but to all who, for purposes of business or pleasure find themselves from time to time called upon to visit the tropical outposts of the Empire. It is conspicuous, from the bookman's point of view, for the attractiveness of its style, the beauty of its illustrations, and the skill which weaves into the texture of a solemn scientific record the golden thread of a fairy tale.

NOTES ON BOOKS.

THE eleventh edition of a little book, entitled *Sanitation and Health*,[6] by Lieutenant-General Sir REGINALD CLARE HART, V.C., K.C.B., K.C.V.O., R.E., is written in simple language, and points out how illnesses may be prevented by a little thought and attention on the part of individuals. It shows that many diseases are due to putrefaction produced by microbes, and how easily they may be prevented by the exercise of a little care. The best way of dealing with various kinds of poisoning is described, and the proper first aid to render in cases of loss of consciousness. Stress is laid on the importance of efficient ventilation and the duty of seeing that sanitary arrangements are up to date; and several pages are devoted to simple methods of determining the wholesomeness of the more important foods.

To his or her novel, *The Crimson Gate*,[7] its author, G. COLMORE, has given the form of an autobiography, the principal and practically only character being a woman whose doings, thoughts, and experiences are traced through childhood, girlhood, motherhood and widowhood, up to the dawn of a second marriage with her first sweetheart. She is a wearisome young woman at times, but, on the whole, her account of herself is worth perusing, since she is made to represent the evolution of a type of character very common among the less unintelligent supporters of antivivisection and anti-most-other-thing societies. She begins life as one of those children who are the despair of such "grown-ups" as are insufficiently sympathetic to appreciate the tumult aroused in them by anything susceptible of interpretation as injustice towards either human beings or animals. She grows up a self-willed but rather weak-willed young woman, given to introspection, but incapable of looking far beyond the surface of anything; fond of her friends, but quite ready to condemn them on very little evidence, and ready to tilt at any one who does not guess in which direction her latest sympathies lie. As time goes on, her tendencies accentuate, and the fashion in which she confuses names with things is cleverly brought out. Though she might easily have done so had she wished, she never visits a laboratory to see what "vivisection" really means, and how far most "operations" interfere with the animals' well-being. Still less does she stop to consider that if animals are never to be used for human purposes, she must eat no food in the production of which they have played a part, neither drive nor ride, and refuse to accept medical treatment of any kind, since it is all more or less directly based on animal experimentation. Despite her experience as a nurse, she does not remember that every form of treatment, to whomever applied, be it merely the administration of a dose of castor oil to a baby, is an experiment so far as the individual is concerned, and she writes down everything which by any conceivable use of language can be called an experiment as something necessarily brutal, unjust, and wrong. Anybody who takes a more normal view is, however normal their life, suffering from a species of mental disorder. Specially lifelike is the way in which the heroine is made to accept as necessarily true anything about vivisection appearing in papers like the *Morning Leader* and its congeners.

The title of *Wrack*,[8] applied by Mr. DRAKE to his novel, is appropriate in that its hero is a seafarer and a wanderer. But he is by no means, as might possibly be suggested by the title, a failure in life from causes outside his own control, nor yet a "waster," to use a modern expressive term. On the contrary, despite a mid-career accident which, by setting up a somewhat dubious disease of the knee, forced him to abandon his early plans, he achieves the position of a member of Parliament. Lest any one should be disposed to sniff at this evidence of success in life, it should be added that he is elected in his absence and on the strength of a novel and other writings which serve to draw attention to the hardships undergone by seamen physically and the unfairness of their position politically. He positively manages to persuade people that if a man's occupation prevent him from taking an active part in politics and make it difficult for him to attend when votes are to be lodged, that is a reason not for depriving him of a vote altogether, but for making arrangements really fitted to his case. In respect of the main theme of the book, it may be said that if Rudyard Kipling painted the poetry of the marine engine, Mr. Drake has painted its prose. Medical men who, by having been to sea as ship surgeons, have had greater opportunities of seeing things than other passengers will probably agree that he has done it exceedingly well, and that on that account the book is well worth reading.

[6] *Sanitation and Health*. By Lieutenant-General Sir Reginald Clare Hart, V.C., K.C.B., K.C.V.O., R.E. London: William Clowes and Sons, Limited. 1910. (Demy 16mo, pp. 58: 3 illustrations. 6d.)

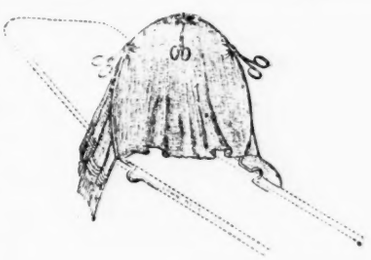
[7] *The Crimson Gate*. By G. Colmore. London: Stanley Paul and Co. (Post 8vo, pp. 320. 6s.)

[8] *Wrack*. By M. Drake. London: Duckworth and Co. 1910. (Post 8vo, pp. 331. 6s.)

MEDICAL AND SURGICAL APPLIANCES.

An Operating Screen.

THE sketch shows an operating screen introduced by Mr. EDWIN MAYNARD, F.R.C.S., while at the Bristol General Hospital; it is intended to shut off operation areas from contamination by the patient's expirations or apparatus used in maintaining anaesthesia. It can be used for operating on any site below the chin. It consists of a piece of spring steel of circular section and of ¼ in. diameter, shaped as shown.



It fixes itself to an operating table with rounded edges, and holds firmly in position by virtue of its shape and resiliency. A sterilized operating sheet of thick honeycomb towelling thrown over the screen and the operating table below it is held in place on the screen by two or three pairs of Lane's tissue forceps, and the central slit in the operating sheet exposes only the operation area. It is made by Messrs. Down Bros.

Abdominal Binder.

We have received from Messrs. Acle and Co., 1, Hustlergate, Bradford, a new abdominal belt made by them. It is closely fitted to the body by tapes and buttons, and contains no steel or bone busks. It is prevented from riding up by strips passing round the thighs, instead of the common indiarubber perineal bands. We have no doubt there are patients who will be much pleased with it.

MEDICINAL AND DIETETIC PREPARATIONS.

"Veda" Bread.

AN important place among predigested foods must be assigned to a bread, half the dry substance of which consists of soluble matter; such a bread is that supplied by the Veda Food Company, Limited (65, Castle Street, Edinburgh), as "Veda" bread, samples of which we have recently examined. This bread is of a brown colour, but shows no particles of bran or other tissue like an ordinary brown bread. It causes no irritation of the bowels. It is slightly sweetish, light and porous, free from pastiness though a little sticky, and highly palatable; it remains moist and fresh after several days' keeping, even when cut and exposed to the air. A portion of a loaf consisting of crust and crumb in the same proportions as in the whole loaf, was found to yield 48.8 per cent. of its dry weight to cold water; of this, 2.4 was found to be protein, leaving 46.4 per cent. for the soluble carbohydrates. Such a bread should be easy of assimilation and of considerable value in various conditions of impaired digestion. It has already won for itself the good opinion of several leading members of the profession.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

A council meeting of this association was held at 34, Copthall Avenue, E.C., on Thursday, July 14th. Dr. Balding was in the chair, and was congratulated by the members present on his recovery from his recent accident.

A notable instance of the inequitable manner in which district medical officers are frequently treated by the guardians came up for consideration. A member of the association had been notified by his board that it proposed to put on to his district, without additional remuneration, a portion of his colleague's, who had applied for an increase of salary on account of great increase of work. The guardians recognized the justice of this claim, but, instead of acceding to their officer's request, decided to relieve him at the expense of his colleague. The latter's work had also increased, but not in the same proportion, but he was now doing much more work than in former times, and his salary was the same as it had been during the last thirty years. The council advised an appeal to the Local Government Board if the redistribution were insisted upon, and resolved to use all the influence of the association in the member's behalf.

Agenda for Special Meeting.

The Council next considered the agenda for the special meeting of the association, arranged for Friday, July 29th, at 4 p.m., in the Council Chamber of the British Medical Association. After some discussion, it was decided that the time should be devoted to the following resolutions, the consideration of which was adjourned from the annual meeting at Halifax on July 1st to a subsequent meeting of the association:

1. That it is not desirable that there should be a "break-up" of the present Poor Law system. That proper reform of existing institutions would be better for the welfare of the sick poor and the good of the nation.

2. That any system in which *free* medical relief is given subject to no other condition than the *subsequent* recovery of the cost from all able to pay would be pauperizing to the nation and ruinous to the interests of all medical practitioners in poor districts.

3. That, except in urgent cases, some *test*, such as the present medical order, should be required of *all* applicants for State medical relief.

4. That there are no logical grounds for drawing any distinction between medical and other relief when granted by the State.

5. That the medical treatment of paupers, or State patients, by provident institutions is strongly to be condemned. That what is done for the State should be paid for by the State *at an equitable rate*. That the payments accepted at provident dispensaries in order to encourage individual thrift cannot form any sound basis for State payment for the medical charge of the destitute.

6. That a system of "part time" is better for the interests of the sick poor. That it is better for the latter to be attended by the same doctors as the rest of the community, rather than by officials appointed to attend only on the poor. That a system of "part time" medical officers lessens the distance that has to be traversed by applicants for medical relief, a matter of great importance in country areas.

7. That the Poor Law Medical Service, however it may be co-ordinated with the Sanitary Medical Service, should be kept separate from the latter.

The estate of the late Dr. Florence Nightingale Boyd, M.D., of whom an obituary notice appeared in our issue for June 25th, has been declared at the value of £19,008. In addition to a number of small legacies for various purposes and to several of her friends among women doctors, she bequeathed £100 to the New Hospital for Women, £50 to its Pathological Department, and £100 to the London School of Medicine for Women.

The International Food Reform Association has now published its second annual report. We gather that its objects are making satisfactory progress. A copy and list of the society's publications, which include books of recipes, can be obtained on application to the secretary, 178, St. Stephen's House, Westminster, in return for three penny stamps.

ACADEMIC COSTUMES.

Every one is aware that the term "academic costume" implies a kind of uniform worn on official occasions by members of certain learned bodies, including all universities, and most people are acquainted more or less accurately with the official costume of the owners of a particular status at some particular institution. But there can be few persons who, finding themselves in the midst of a heterogeneous assembly of academically attired individuals, would be prepared to designate the regiment and rank, so to speak, represented by each of the costumes to be seen.

Any one who professed his ability to do so would be a somewhat bold person, since of academic costumes prescribed for their members by different university and other like bodies in Great Britain and Ireland there must be not less than three hundred at a moderate computation. The professed expert might find himself faced by each and any of these at great assemblies, such as those of the British Medical Association at its annual meetings. His difficulties, too, might be further increased by the presence of academic costumes proper to graduates of foreign universities, for, apart from visitors, there are a good many medical men resident in this country who are holders of foreign degrees.

On the whole, however, his difficulty would lie less in the number of costumes than in the close resemblance of most of them—in fact, their identity, except in point of colour. That the costumes should be alike is not peculiar; those worn by members of certain universities being the attire of their predecessors for many centuries, while other costumes, though only recently devised, are faithful reproductions of garb of the same period. All, therefore, have a common origin.

These statements require, however, some degree of qualification, since there is considerable obscurity in the history of academic costumes, and it cannot be stated how far the robes now worn are identical in cut, material, and colour with those of early times. In the case of ecclesiastical dress the illuminations to be found in theological books, the statues and other sculptures, including monumental brasses, scattered throughout the churches of the country and dating back to very early periods, afford fairly accurate knowledge of what were the costumes worn by ecclesiasts of one rank and another many hundred years ago. Moreover, ecclesiastical robes are often worn by many generations of ecclesiasts in succession.

But in the case of academic robes there is much less in the way of assured knowledge, and there is reason to believe that as robe makers have died and manufacturers of cloth and silk have changed their processes there have been more or less marked alterations, all tending to diminish the number of differences and thus increase the difficulty of telling one costume from another.

Fortunately, however, the vast majority of the academic costumes to be seen at annual meetings of the British Medical Association represent degrees in faculties of medicine and surgery, and to distinguish accurately between them becomes a fairly possible task if the observer is possessed of a good memory and an eye for shades of colour.

The essential constituents of an academic costume are three—the cap, the gown, and the hood—and by way of establishing a rough differential diagnosis on entering a room the first named is, perhaps, of the greatest utility.

The Cap.

Since the cap is not invariably worn on the head, but often carried in the hand, it exists for the observer neither as a constant complication in diagnosis nor its converse. When visible it is a friend rather than a foe, for observation of its shape will serve to make possible a rough-and-ready classification of the owner's status—a diagnosis mainly of a negative kind. Thus, for instance, if a man otherwise academically attired is wearing not the headpiece commonly called a mortar-board or trencher, but one of some other shape, it can at once be asserted that he is not a graduate still nominally in process of evolution, but one who has reached the highest grade in his faculty. In other words, he must be a doctor, and not a bachelor. On the other hand, the fact that he was wearing a mortar-board would not necessarily write him down a bachelor, for at many universities this headpiece is common to all

	Cap.	Gown.			Hood.		
		Colour.	Material.	Facing.	Foundation.	Lining.	Edging.
Oxford M.D.	Beefeater	Scarlet	Cloth	Crimson	Scarlet	Crimson	—
,, M.Ch.	—	—	—	—	—	—	—
,, M.B.	Trencher	Black	Stuff	—	Blue	—	White fur.
Cambridge M.D.	Beefeater, gold cord	Scarlet	Cloth	Dark cherry	Scarlet	Dark cherry	—
,, M.C.	Trencher	Black	Silk	—	Black	White	—
,, M.B.	Trencher	Black	Stuff	—	Black	Dark cherry	—
London M.D.	Black beefeater	Scarlet	Cloth	Violet	Scarlet	Violet	—
,, M.S.	Trencher	Black	Silk	—	Black	Violet	—
,, M.B.	Trencher	Black	Stuff	—	Black	Violet	—
Durham M.D.	John Knox	Scarlet	Cloth	Palatinate purple	Scarlet	Purple	Scarlet.
,, M.S.	Trencher	Black	Silk	—	Rose	Purple	—
,, M.B.	Trencher	Black	Stuff	—	Scarlet	P. purple	White fur.
Birmingham M.D. ...	Beefeater, gold cord	Scarlet	Cloth	Cardinal	Scarlet	Cardinal	—
,, C.M. ...	Trencher	Black	Silk	—	Black	Cardinal	—
,, M.B. ...	Trencher	Black	Stuff	—	Black	—	Cardinal.
Leeds M.D.	Scarlet beefeater	Scarlet	Cloth	Green	Scarlet	Green	—
,, M.Ch.	Trencher	Black	Silk	—	Green	White	Green.
,, M.B.	Trencher	Black	Cloth	—	Green	Green	—
Manchester M.D.	Trencher	Scarlet	Cloth	Yellow	Old gold	Yellow	—
,, M.S.	Trencher	Black	Silk	—	Black	Red	—
,, M.B.	Trencher	Black	Silk	—	Black	—	Red.
Liverpool M.D.	Trencher	Scarlet	Cloth	Lavender	Scarlet	Lavender	—
,, Ch.M.	Trencher	Black	Silk	Lavender	Black	Lavender	—
,, M.B.	Trencher	Black	Stuff	Lavender	Black	Lavender	White fur.
Sheffield M.D.	Velvet trencher	Scarlet	Cloth	Green	Crimson	Red	—
,, M.Ch.	Trencher	Black	Silk	—	Red	—	White fur.
,, M.B.	Trencher	Black	Stuff	—	Green	White fur	Red.
Bristol M.D.	Velvet trencher	Scarlet	Cloth	Salmon	Red	Salmon	—
,, Ch.M.	Trencher	Black	Silk	—	Red	White	—
,, M.B.	Trencher	Black	Stuff	—	Black	Light red	—
Edinburgh M.D.	John Knox	Scarlet	Cloth	Crimson	Black	Crimson	—
,, Ch.M.	Trencher	Black	Silk	—	Black	Golden	—
,, M.B.	Trencher	Black	Stuff	—	Black	Crimson	White fur.
Aberdeen M.D.	John Knox	Scarlet	Cloth	Crimson	Scarlet	Crimson	—
,, M.C.	Trencher	Black	Silk	—	White	Crimson	—
,, M.B.	Trencher	Black	Stuff	—	Black	Crimson	—
Glasgow M.D.	John Knox	Scarlet	Cloth	Scarlet	Scarlet	Scarlet	—
,, C.M.	Trencher	Black	Stuff	—	Black	Scarlet	Scarlet.
,, M.B.	Trencher	Black	Stuff	—	Black	Scarlet	Scarlet.
St. Andrews M.D.	Biretta	Crimson	Cloth	Crimson	Crimson	White	—
,, M.C.	—	—	—	—	—	—	—
,, M.B.	Trencher	Black	Stuff	—	Crimson	—	White fur.
T.C.D. M.D.	Velvet trencher	Scarlet	Cloth	Crimson	Scarlet	Crimson	—
,, M.Ch.	Trencher	Black	—	—	Green	Blue	Crimson.
,, M.B.	Trencher	Black	Stuff	—	Black	Crimson	—
R.U.I. M.D.	Trencher	Scarlet	Cloth	Scarlet	Scarlet	Scarlet	—
,, M.C.	Trencher	Black	Silk	—	Red	White	Blue.
,, M.B.	Trencher	Black	Stuff	—	Black	Olive	—
Belfast M.D.	Trencher	Scarlet	Cloth	Scarlet and blue	Scarlet	Scarlet	Blue.
,, M.Ch.	Trencher	Black	Silk	—	Red	White	Blue.
,, M.B.	Trencher	Black	Stuff	—	Black	Scarlet	Blue.
National M.D.	—	—	—	—	—	—	—
,, M.C.	—	—	—	—	—	—	—
,, M.B.	—	—	—	—	—	—	—
F.R.C.S.	Trencher	Black	Cloth	Broad crimson	—	—	—
M.R.C.S.	Trencher	Black	Cloth	Narrow crimson	—	—	—
L.S.A.	Trencher	Blue	Silk	Gold	—	—	—

grades, though M.D.'s of Trinity College, Dublin, Liverpool, Sheffield and Belfast have their trenchers covered with black velvet.

Finally, the shape of the headpiece, if it be not a trencher, at once reduces the number of bodies to which the wearer can possibly belong. If it be one of the kind worn by Yeomen of the Guard—the flat round cap known as "beefeater"—its wearer must be either an Oxford, Cambridge, London, Birmingham, or Leeds man. But if, on the other hand, it be a cap of the kind familiar in pictures of Nonconformist celebrities of the seventeenth century—the soft, flat, square cap, known as the "John Knox"—its wearer must be either a Scottish graduate or one from Durham.

Gowns.

There are certain differences in the cut of all gowns, but they are so minute as to be indistinguishable except on very close examination. Practically they are only susceptible of two main classifications. All gowns are either scarlet or some shade thereof, or black, and the wearers of all gowns of scarlet or shades thereof may be written down forthwith as doctors of the faculty to which they belong. On the other hand, all wearers of black gowns must not be written down as bachelors, for masters of surgery always wear black gowns, and at many universities the black gown is the proper attire, even of an M.D., unless he is also a member of Convocation.

Here, however, the question of facing comes to the rescue, for facings are only worn by those of a rank superior to bachelor, except at Liverpool. The Liverpool M.B. is easily distinguishable, however, since the facing of his black gown is of lavender and his hood is edged with white fur.

Apart from ordinary gowns, there may occasionally be seen dresses of somewhat different character, as, for instance, a kind of sleeveless tunic worn over a black silk gown. This is the Convocation habit of the Oxford M.D., whose scarlet gown also differs from those commonly worn; it fits more closely and has silk sleeves.

Hoods.

The final diagnosis of the status and university of the wearer of an academic costume perhaps depends more on the nature of his hood than on anything else; but there is such an extreme variety of hoods that to classify them in a simple fashion is a matter of great difficulty. Moreover, they are not invariably worn.

The colour and material of the main foundation of a hood is generally that of the gown with which it is worn, but either its lining or its edging is different, and as these are the parts which chiefly show they are of the most importance. Of the various hood colours to be seen the least common is old gold.

Except for the fact that the L.S.A.London has a facing of old gold to his gown, this colour would be absolutely diagnostic of the M.D.Manchester, whose hood is old gold lined with pale yellow. Green is another uncommon colour. By itself it is worn solely by the Leeds M.B., whose hood is of dark green silk, lined with a paler shade of the same colour. M.D.'s of the same university have their scarlet gowns faced with green, as also has the Sheffield M.D., but the two can be distinguished from one another by the fact that the Sheffield M.D.'s hood is of two shades of scarlet, while the Leeds M.D. hood is lined with green.

Shades of violet are also comparatively rare. True violet is absolutely peculiar to London University, while a dark violet or "palatinate" purple is peculiar to Durham, and a very light violet or lavender colour is distinctive of Liverpool.

As for blue, it is also a rare colour. When it appears in a very dark shade as the foundation of a hood edged with white fur it is distinctive of the Oxford M.B. The only other university which uses this colour is Belfast, whose M.D. and M.B. graduates have their scarlet-lined hoods bound with pale blue. In addition, blue is also the colour of the L.S.A. gown, but it has no hood, and as already mentioned it is faced with old gold.

As for shades of red, the possibilities of confusion are considerable unless the observer has both an excellent memory and can differentiate instantly between scarlet, cherry colour, crimson, and pink. If so, the following details may be useful to him:

Scarlet hoods lined with scarlet and without any other colour are peculiar to the M.D., R.U.I., and the M.D. Glasgow, but their wearers can be distinguished by the fact that the Glasgow M.D. wears a "John Knox" cap.

Scarlet and crimson with no other colour is peculiar to the M.D. of Oxford, of Trinity College, Dublin, and of the University of Aberdeen; but the Dublin man wears a velvet trencher and the other two beefeater and John Knox caps respectively.

The scarlet and cherry colour of the Cambridge M.D. hood can only be confused with that of the M.D. Sheffield; they are otherwise easily distinguishable partly because the Cambridge gown has a cherry silk facing, partly because the Cambridge M.D. wears a beefeater cap and the Sheffield M.D. a velvet trencher. It is perhaps easier to mix up the Sheffield and the Birmingham M.D., but the lining of the latter's scarlet hood is the dark crimson known as cardinal and its material watered silk.

There are two other reds which can be distinguished with fair ease, that of the St. Andrews M.D., lined with white satin, and of the St. Andrews M.B., edged with white fur. So far as their hoods alone are concerned, it is difficult to distinguish between the wearers of other red-lined hoods, for black hoods and scarlet linings of one shade or another are common to the M.B. of Cambridge, T.C.D., Edinburgh, R.U.I., Manchester, Glasgow and Aberdeen, Belfast and Bristol. The Cambridge red, however, is a dark cherry, and the Edinburgh hood has a fur edging, and the Belfast a blue edging.

To the foregoing diagnostic points readers may perhaps be able to add others with the help of the table on page 203. Most of the statements contained are based on information kindly supplied by Messrs. Ede, Son, and Ravenscroft, the university robe makers, supplemented by inquiries to university authorities, who, quaintly enough, do not invariably seem perfectly certain what the robes proper to their various classes of graduates really are.

History.

As has been stated, the history of academic costume is somewhat obscure; but there are certain points on which knowledge is fairly assured, and indication of them may help to render the recollection of differences more easy.

Perhaps the only universities which can be said to have developed their own robes are Oxford and Cambridge. Most of the Scottish universities adopted those of the foreign universities on whose model they themselves were founded. Thus, for example, the cap of a St. Andrews M.D. can any day be seen in the law courts of Paris, being part of the official dress of graduates in the university of that city, and as such worn by members of the higher bar when pleading.

Taken as a whole, academic costumes may be regarded as representing a mixture between the ecclesiastical and ordinary dress of the thirteenth and fourteenth conturies. The general shape, for instance, is that of an alb, while the facing of the gowns of masters and doctors is clearly a survival from the stole or narrow scarf, originally called the "orarium." The hood much resembles the monastic cowl, and might be so regarded were it not that similar garments were commonly worn at that date by the middle classes and lower orders by way of head covering in cold weather. It is for this reason that bachelors, who originally had no cap, had their hoods lined with white rabbit fur, which as an edging still survives on many of them.

But the ecclesiast's robes and the ordinary dress of the period in question both reach back to the East, though by different routes. Soldiers returning from the crusades seem to have brought with them a custom of wearing the loose voluminous garments common even nowadays in Syria and Arabia, whence also the Church derived its alb, originally made in white linen. But these again may be carried back to the chiton of classical times. This was merely a sack-like garment, loosely fastened across the shoulder, the arms protruding though the unsewn upper part of the sides. The bunching-up on each side of the neck of the superfluous fabric naturally formed a kind of sleeve, which gradually developed in length. There is a trace of this origin in the fact that, until recent times, the armhole of a gown was merely a vertical slit instead of an horizontal opening. Those of junior grade among members of universities originally had very short sleeves, and their gowns hardly reached below their knees. Wearing their

gowns at all times, they commonly required in those not too peaceful days to have their arms quite free and their legs untrammelled. Only their revered seniors could afford to wear gowns reaching the ground and long sleeves.

IMPERIAL CANCER RESEARCH FUND.

THE annual meeting of the Imperial Cancer Research Fund was held at the Royal College of Surgeons of England, Lincoln's Inn Fields, on Wednesday, July 20th, the Right Hon. ARTHUR J. BALFOUR, M.P., Vice-President, in the chair. Among those present were Sir William Church, Bart., Sir R. Douglas Powell, Bart., Sir Henry Morris, Bart., Lord Cromer, Sir Henry Howse, Sir Charles Morrison-Bell, Bart., Mr. Pearce Gould, Professor Sims Woodhead, Dr. Arthur Newsholme, Mr. H. T. Butlin, F.R.C.S., Mr. J. A. Mullens, Mr. Edmund Owen, Sir Francis Lovell, Dr. Andrewes, Dr. T. H. C. Stevenson, Mr. Gerard Fiennes, Mr. S. Leeke, Mrs. Yates, Mr. G. Maudsley Williams, Mr. Shattock, Miss Grimes, Dr. J. A. Murray, Dr. M. Haaland, Dr. Woglom, Professor Higuchi, Dr. H. Takaki, Dr. Snapper, Dr. Rosenthal, Mr. Cowell, Dr. E. F. Bashford (General Superintendent), and Mr. F. G. Hallett (Secretary).

Annual Report.

The eighth annual report (1909–10) of the Executive Committee was presented. After recording the events of the year, it stated that the very important question of the provision of future laboratory accommodation had engaged the attention of the Committee. There was now considerable hope that the Royal Colleges might be able to provide adequate and suitable laboratories in their new Examination Hall for the use of the Fund. Whilst it was not to be expected that this new accommodation would be provided free of all expense, it would be gratefully recognized that this generous action of the Royal Colleges would involve the Fund in a comparatively small expenditure. The cost of the equipment of the new laboratories, as well as the expense of moving, would, however, be considerable, and would have to be provided for during the next two years. Regret was expressed at the loss of the services of Dr. Magnus Haaland, who had been appointed Director of the Pathological Institute at Bergen. The Committee also regret that two voluntary workers under Dr. Bashford had terminated their connexion with the laboratories, but it was with much satisfaction that the Committee had heard that they had received the recognition of their work by being invited to fulfil important appointments; Dr. Medigreceanu was offered an appointment in Bucarest, but had preferred to accept another appointment in New York; whilst Dr. Da Fana had been appointed First Assistant in the Pathological Institute at Gröningen, Holland. Mr. A. G. Wells had been appointed Assistant in the laboratories in place of Mr. Bowen, resigned.

The Lord President of the Privy Council having requested the Executive Committee to recommend a fit and proper person to represent His Majesty's Government at the International Conference on Cancer to be held in Paris in October next, Dr. Bashford was unanimously recommended for this office, and the nomination had been accepted. A list of the papers and communications which had been issued from the laboratories during the year was read.

Report of the General Superintendent.

Dr. Bashford's report stated that the more general aspects of the study of cancer had continued to receive attention, although the period when such investigations chiefly occupied the energies of the workers ended with the publication of the Second Scientific Report. Since then specialized studies had been undertaken and continued during the past year.

An account of the more salient features of statistics tabulated from the data of 13,000 cases of cancer collected from hospitals had been published; attention had been directed to the bearing of the statistics upon the diagnosis of the disease, upon the interpretation of mortality statistics and upon the alleged increase of cancer, as well as upon the anatomical distribution of the disease and its association with irritation. With the continued support of the Foreign, India, and Colonial Offices, further information had been obtained on the occurrence of cancer in native races in outlying parts of the empire. In this connexion the importance of the association of chronic irritants with cancer had continued to claim chief attention.

Cancer of the tongue in the human subject was important because of the minute size of the lesions which can be recognized. A plaque on the surface of the tongue not more than a twentieth of an inch in its longest axis might exhibit all the features of malignant new growths; with plaques not more than a fourth of an inch in longest axis extensive infiltration of the walls of the veins and muscles of the tongue also might be present. The histological examination of these early lesions, and also of others that had been neglected or "under observation" till they had become of very much greater size, has convinced the workers that any local lesion of the tongue in an elderly person, the cancerous nature of which could not be definitely excluded, should be removed and submitted to microscopical examination. This examination should be made by sectioning the entire growth and examining all the sections in order. A single section was quite valueless for diagnosis when picked out haphazard unless it gave a positive result.

The methods suggested during the past year, by various workers, for the serum diagnosis of cancer had not yielded positive results in the hands of Dr. Bashford and his colleagues, and reliance must continue to be placed on the examination of the anatomical lesion. Much additional information had been obtained on the occurrence of cancer in lower vertebrates. Particular attention had been devoted to the incidence of the disease in cattle and in mice. While in mice the phenomena were presented in miniature even in their most advanced stages, in cattle they were demonstrated on a magnified scale as compared with man, although the universal minuteness of the early stages was independent of the size of the animal. In the course of the past six months 90 cases of malignant new growths in cattle were obtained from a single abattoir. The histological types comprise the majority of the forms met with in man. The frequency of primary carcinoma of the liver associated with cirrhosis, and of primary malignant growths of the suprarenal was of interest. The study of these growths had thrown light on the circumscribed origin of malignant new growths, their occasional multiplicity, and on the phenomena of dissemination. During the year, 166 mice bearing spontaneous tumours were examined, 139 of which had malignant new growths. It had been demonstrated that practically all mammary carcinomata of the mouse could be transplanted; therefore, of the 139 malignant tumours, only 22 were transplanted, and these were selected because microscopical examination had shown them to be of exceptional nature. The tumours comprised carcinomata of the preputial and sebaceous glands, 8 cancroids, a hypernephroma, a spindle-celled sarcoma, and 5 lymphomata, of which two were accompanied by leukaemia. Two squamous celled carcinomata involved the jaw, invading it extensively. Other tumours of interest have been found in the uterus, ovary, liver, lungs, and heart.

The advantages of using short-lived animals for studying the possible influence of heredity was pointed out in 1903. The breeding experiments which had been in progress for five years have yielded a material of nearly 2,000 animals of known age and ancestry. Of these 700 females attained the age of 6 months or over. In them 75 cases of cancer of the mamma had appeared spontaneously. Analysed so as to bring out the liability to cancer according as the young were born before or after it appeared in the mother, the figures showed a higher incidence in those born before the mother developed the disease. Since the conditions necessary for contagion were present the opposite result would have been obtained had any analogy existed between cancer and the recognized infective diseases.

A diminution had been effected in the number of mammary growths propagated in the laboratory. Only 45 mammary carcinomata were being propagated as against 60 last year. Of others remaining under propagation, 6 exhibited horny changes in varying degrees, 2 are adeno carcinomata of sebaceous glands; in addition there is an adenoma of the preputial glands, an osteo-chondro-sarcoma, a spindle-celled sarcoma, and a round celled

sarcoma. Several strains of spindle and polymorphous-celled sarcoma that had arisen under experimental conditions were being propagated. A carcinoma and sarcoma of the rat were being propagated. Tumours of the guinea-pig, dog, and frog are also under observation.

The general results of the study of the large number of tumours which have been under observation were summarized as follows:

Three years and four months represents the maximum length of life observed for mice kept in our laboratory. One tumour strain has been growing for nine years and has now passed through 166 successive batches of mice, and 16 tumour strains are still growing freely after three years. It is thus demonstrated that the duration of the growth of cancer has no limitations set to it comparable to the length of life of the animal in which it arose.

The relations of a tumour to the organism primarily attacked and the nature of cancer had been further elucidated by the following experiments:

The transplantation of a spontaneous tumour into the same animal, either subcutaneously or intraperitoneally, is almost invariably successful, although transplantation into other animals of the same species may fail in extreme cases in as many as 500 attempts. This difference obtains whether the other animals are normal (young or old), or are exactly comparable by being naturally cancerous, and of the same stock and same age. Thus of 55 reinoculations of animals with their own tumours 54 were positive, whereas of 77 inoculations of spontaneous tumours in other spontaneously affected mice only 5 were positive. If transplantation of a spontaneous tumour be practised under the most favourable conditions, as described in published papers, the percentage of success rarely reaches 30 per cent., and on the average is only 12 per cent. From such observations we must conclude that animals naturally the subject of cancer do not suffer from it because they present a soil uniformly favourable for the disease. On the contrary, the circumstances associated with the appearance and the growth of cancer are in each case peculiar to the individual attacked, and need not be similar to that obtaining in any other individual. Further, these experiments would go a long way to prove that the cancer cell, although highly dangerous to the individual in which it arises, is relatively innocuous to other individuals. This conclusion is not vitiated by the ease with which other tumours after artificial adaptation to propagation can be made to grow in all mice inoculated. In their case also it has been demonstrated that the risk of natural transference is non-existent.

Both for spontaneous tumours and for propagable tumours it had been shown that young animals afford a more suitable soil for transplantation than old animals, although the latter were much more prone to the natural development of cancer. The fact that transplantation was more readily successful in young than in old animals showed that, although senescence was intimately bound up with the origin of cancer, it was inimical to its continued growth. In each case of spontaneous cancer this inimical influence was neutralized by the perfect adaptation of the cells to their parent and host. The view which had been widely accepted that cancer arose in old animals in parts of the body which retained the normal avidity for food while that of the rest of the body was diminishing, had been disproved by the results of elaborate cross-inoculations of spontaneous tumours into the animals in which they arose and into other cancerous and normal animals, as well as by transplanting propagable tumours in cancerous and normal animals.

In former years it had been pointed out that an increase in the rate of growth or in the percentage of successful inoculations did not necessarily imply a fundamental biological alteration finding expression in an accelerated rate of proliferation of the tumour cells, but might be explained by the selection of particular cells adapted to the conditions of growth, and consequently the survival and proliferation of a larger number of such cells. In other words, these two phenomena might be explained by an increase in the dose of the cells able to grow. The evidence for the acquirement of new properties by tumour cells was very much stronger when one observed the occurrence of morphological alterations which became of relative constancy, such as the disappearance—or latency—of their typical characteristics in the case of squamous-celled carcinoma, the disappearance of acinous structure in the case of glandular carcinoma, the derivation from cubical epithelium of epithelial cells which, if their previous history had not been known, could not have been distinguished from those of a spindle-celled sarcoma. In other cases the change was made manifest by the alterations taking place in the supporting connective tissue and blood vessels, so that tumours which at one time exhibited dilated blood vessels lose this character.

Of the 29 tumours of the mamma that had been propagated in the laboratory for over two years, as many as 16 had shown departures from the features they exhibited at the outset, these departures affecting the degree and nature of the histological differentiation, the percentage of successful inoculations, the rate of growth of the resulting tumours, the relative proportions of progressively growing tumours and of tumours which undergo spontaneous absorption after transitory growth, the susceptibility of the tumour to method of transplantation, to dose, to race, to age, and to the influence of induced immunity. Thirteen tumours had shown a relative constancy of their structural and biological characters. Of the 16 variable tumours, 9 had varied from the primary condition in both respects. Two had shown biological variations without histological change, and 5 had altered in microscopical characters without noticeable modification of their biological behaviour. On the whole, therefore, histological character was less constant than biological behaviour.

Dr. Bashford proceeds:

The relative constancy but still more the variability which the tumour cells exhibit, during propagation, throws indirect light of the most suggestive kind upon the nature and the manner of the development of cancer. The variability in a constant environment, during propagation, allows one to infer that corresponding variations may take place, while the cells are under the influence of the particular environment provided by the animal in which the tumour developed spontaneously. The environment of the cell will depend on the individuality of the animal, and, with the progress of life, distinctions between one animal and another may become more and more marked. This inference accords with what has been said above on the ease with which auto-transplantation is effected, and the difficulty with which transplantation can be effected to another individual, and therefore also with the fact that all cancerous mice do not exhibit an equally suitable soil for tumours in general.

These spontaneous variations of the parenchyma cells of tumours during propagation suggest that we have here a repetition, in a minor degree, of the cellular processes responsible for the primary transformation of non-cancerous into cancerous tissue; just as cellular changes occurring during propagation may transform within a brief space of time an acinous growth into a solid one, or a slow-growing tumour into one rapidly proliferating, so in the tissues prior to the development of a malignant new growth the responsive proliferation of cells may pass into the progressive, independent proliferation of cancer.

Experiments bearing on the metabolism and biochemistry of cancer had been conducted on a larger scale than formerly. An exhaustive investigation had been made into the relative sizes of the organs of rats and mice being transplanted and spontaneous tumours. The most important result had been the discovery of an enlargement of the liver in animals bearing carcinomata and sarcomata, whether transplanted or naturally arising. Up to a certain point the hypertrophy was proportional to the weight of the tumour. There could be no doubt that this hypertrophy of the liver was associated with the metabolism of the tumour. It was being further investigated as an important clue to the bio-chemical relations of a tumour to the organism bearing it. Careful investigation showed that it was not to be explained by animals bearing tumours taking up more nourishment than do normal animals.

It had been found that less nitrogen was required to build up a given weight of tumour than was needed to build up an equal weight of normal tissue of the host, cancerous tissue containing not more than three-fourths as much nitrogen as normal tissues weight for weight. In animals with transplanted tumours, at a period before excessive growth had led to exhaustion, nitrogen was stord up in proportion to the increase in size of the tumour. The nitrogen for the tumour was obtained by a "sparing action" on the protein metabolism and not at the expense of the host tissues. This explains why, with the increase of the tumour, the animals did not eat more. Control experiments on pregnant animals had shown a parallel condition to exist in them.

A large proportion of the work had been devoted to the reactions conferring resistance to the transplantation of cancer, to those responsible for the disappearance of transplanted tumours, and to the rarer phenomenon of

the natural cure of spontaneous malignant new growths. The most varied means of disintegration or modification of cells were being employed to attempt to rob tumour tissue or normal tissue of its powers of growth while retaining its powers of inducing resistance, but as yet without success. Resistance could still be induced only by the employment of living tissue.

The possession of a large series of tumour strains showing all gradations in the percentages of tumours disappearing after transitory growth had made it possible to study the reasons for their disappearance under favourable circumstances, because the series comprised some tumour strains with the maximum speed of growth, while others present all gradations to the minimum. Advantage had also been taken of those alternations in the biological properties of tumour cells to which attention had so frequently been directed in previous years.

The report continues:

It is now possible, under given experimental conditions, to prevent a secondary transplantation—that is, artificial metastasis, taking place for certain tumour-strains. This result has been obtained by inserting between the primary and secondary transplantations an inoculation of a very rapidly growing tumour showing only transitory growth, as the following sample experiment shows. Of 12 mice, already bearing progressively growing tumours and treated in the manner described, the secondary inoculation was successful in 3 only, and then the tumours were very much smaller than in the control consisting of 13 mice, of which 10 developed new progressively growing tumours on secondary inoculation. A similar result can be obtained by the implantation of tumours growing much more slowly and liable to spontaneous absorption, as well as by an inoculation of normal mouse-tissue. By similar methods the growth of the primary transplanted tumour may be greatly hindered, can be brought to a standstill and the animal cured, in circumstances under which the disease would certainly have progressed, and where the possibility of the occurrence of spontaneous cure can almost certainly be excluded. Thus the control of *transplanted* cancer has been brought within the region of probability.

These achievements must not be confounded with successful vaccination against spontaneous cancer arising, or against infectious disease. Animals perfectly protected against the repeated inoculation of cancer might develop tumours of their own—an observation often confirmed. Still more emphatically did Dr. Bashford warn against applying to the human subject the methods which after long perseverance have enabled us to arrest the growth and even to cure animals of transplanted tumours that were well established, and also to render animals resistant to a secondary inoculation, that is, to dissemination and metastasis formation. He says:

The immunity reactions to transplanted cancer are throughout clearer and more easily studied than are those of spontaneous cancer. The problems presented by spontaneous tumours are more delicate and elusive. The methods effectual in normal animals against primary inoculation with transplantable tumour, which, as mentioned above, also arrest the growth of growing transplanted tumours and prevent successful reinoculation under suitable circumstances, have been without action on the continued growth of the twenty-five spontaneous tumours on which they have been tested, have failed to prevent recurrence or dissemination, and have not yet prevented a successful reinoculation of the spontaneously affected animal with its own tumour. The investigations must go on until a higher degree of resistance can be obtained in this way, or it may be that an entirely different method must be sought. The expectation of ultimate success seems a fair inference from the results obtained with transplanted tumours which reproduce all the phenomena of growth and dissemination of spontaneous tumours, and from the rare but undoubted cases in which temporary arrest of growth, or total disappearance, have occurred in spontaneous tumours.

The prospect is made the more hopeful by the discovery of a method whereby an animal can be immunized by means of one of its own tissues against a primary inoculation of a tumour transplanted from another animal. This, again, is a very different matter from immunizing an animal against its own tumour. Nevertheless, it illustrates how much that was previously unsuspected is being revealed, as step by step advances are made into yet unexplored regions. Inquiries into the effects which the several tissues of the body may have, either singly or in combination, in inducing protection are being made.

Dealing with chronic irritation and cancer, Dr. Bashford says:

A practical result arises out of the association of various forms of irritation with the development of cancer in sites where more obscure influences can be excluded, especially from what has been ascertained on the incidence of cancer in native races practising peculiar customs, and on the incidence of cancer in some animals. Experiment has emphasized this relation and has thrown light upon the mechanism which makes the irritation effective, leading to similar consequences although the irritants themselves have nothing in common. Recent legislation is thereby justified in the interest of workers employed under circumstances exposing particular parts of the body to chronic irritation of peculiar kinds. In 1903–4 the feasibility of obtaining more accurate information of the incidence of cancer in different occupations was before the Statistical Subcommittee. The progress made since renders such an investigation still more urgent to-day. It must not be supposed, however, that cancer has been proved to be always the result of irritation. The *mediate* influence of irritation has only been defined more closely than ever before.

It was added that preparations were being made for the issue of a fourth scientific report.

Report of Honorary Treasurer.

The report of the Honorary Treasurer stated that the actual expenditure on the research work and the incidental expenses connected therewith, during the year 1909–1910, amounted to £5,782 13s. 7d. The actual income from invested capital during the same period was £4,159 7s. 8d. The contributions received during the year towards the General Fund reached a total of £3,150 16s. 5d.

After deducting from these contributions £1,623 5s. 11d. to meet the deficiency of income as compared with expenditure for the year, and £703 11s. 10d. for repayment of the overdraft of the preceding year, there remained the unexpended balance of £823 18s. 8d. to be carried to the General Fund. In addition to these contributions a further sum of £6,000 had been contributed towards the Endowment Fund. The invested capital had therefore been increased by this amount during the year, and the total now stands at £132,222 19s. 3d.

Mention was made of the munificent gift to the Endowment Fund of £5,000 from "A Friend," one of the first and most liberal contributors and one of the most earnest and hopeful of the wellwishers of the research into the difficult problems connected with cancer and morbid growths in general. The donation of £1,000 (being the fourth of a similar amount) from the Duke of Bedford was a further evidence of the interest in and the enthusiastic encouragement to the cause which His Grace had shown ever since the initiation of the Fund. Mr. James Wilcocks had given the handsome contribution of £1,000 to the Endowment Fund. Another donor, "Anonyma," who had previously contributed on several occasions to the Fund, had this year made the substantial gift of £100. In regard to this gift Sir Henry Morris says:

Knowing as I well do the amount of self-sacrifice and the many self-denials which such a donation from a lady of very moderate income means, I desire on behalf of the Executive Committee to thank her publicly through the channel of this report, and at the same time to assure her—a gentle and tender-hearted woman and a lover of animals as she is—of our appreciation of her repeated efforts to correct and counteract prejudices which on the ground of vivisection it has been attempted to arouse against the Fund. Such attempts she with righteous indignation has from time to time taken trouble to show have a tendency, if they have any influence at all, to throw difficulties in the way of scientific research and to frustrate the aims of humanity.

The Honorary Treasurer concluded by repeating that the annual expenditure greatly exceeded the income derived from investments, and pointed out that this expenditure could not be reduced, but, on the contrary, was quite sure to increase in the next few years. Next year a fourth scientific report, which would be issued, must make a very heavy demand upon the Fund, and the considerable expenses attaching to removal and to the equipment of laboratories in a new building will shortly have to be found. It was most essential, therefore, that there shall be no falling off in the coming years of the contributions to the working expenses of this Fund.

Sir WILLIAM CHURCH, Chairman of the Executive Committee, moved that the report be adopted.

This was seconded by Professor SIMS WOODHEAD and carried.

APPOINTMENT OF PRESIDENT.

Sir WILLIAM CHURCH then moved:

That His Grace the Duke of Bedford, K.G., be appointed President of the Imperial Cancer Research Fund.

The motion was seconded by Sir HENRY MORRIS, Bart., and carried.

Vote of Thanks to Executive Committee.

The Chairman (Mr. Arthur Balfour) moved:

That the thanks of this meeting be given to the Chairman and members of the Executive Committee, the Subcommittees, the Honorary Treasurer, and others who have assisted in the work of the Fund during the past year.

He said: It is now seven years since I had the great honour of presiding at the annual meeting of the Fund, and I am given to understand—I think by Sir William Church himself—that critics have been found who think that the work of the Fund should have shown greater and more direct results in the course of these early years of its existence. I confess that, looking back over the seven years which have elapsed since I last took this chair, it seems to me that a precisely opposite conclusion ought to be drawn from the various reports that we have had laid before us, and not least from the summary of the work of the Fund which Sir William Church has just given. I suppose there were persons who imagined that you had only to start a fund with a large number of competent workers to be able to find some immediate method of dealing with the great scourge of cancer—a scourge the magnitude and severity of which, though not apparently increasing, is being more and more brought home to us by the improvements of statistics and the improvements of medical diagnosis. But, surely, those expectations of an immediate discovery of some external remedy, so to speak, some accurate and active remedy for this disease, did not take sufficient account of the only means by which we can readily deal with these great therapeutical problems, which must be dealt with as part of a great biological whole. If anybody considers, for instance, what has been done in dealing with that enormous class of diseases which we now know to be due to microbic invasion, they will see that it was not done by any method analogous, for instance, to the accidental discovery of quinine as a prophylactic against certain kinds of fever; but, on the contrary, all our discoveries are due to a broad scientific outlook which has produced unexpected conclusions and results in every kind of different field, apart even from human pathology. Whoever would have suspected, only within the lifetime of myself and others who are listening to me, that we should see some kind of common cause in such utterly different things as the production of alcohol, the production of pearls, and the production of whooping-cough; and yet, I suppose, our knowledge of how all those very different results have come about is really due to investigations into the actions of microscopic organisms in various fields acting in very different ways. The public ought to remember that all that has been done in tropical medicine, in vaccine therapy—all the triumphs which have been won, and the much greater triumphs which are going to be won—are based upon this broad investigation into great scientific issues. Well, I imagine one result of the investigations of the Fund is to show that we are now dealing with quite a different set of phenomena from those with which ordinary infectious diseases are concerned. I gather that the results of the scientific investigations of the Fund are to show that while these infectious diseases are due to external invasion tumours are due to domestic rebellion, and they are entirely different; therefore, as I understand the results which have been arrived at by Dr. Bashford and his colleagues in their cause, and must be looked at from an entirely different point of view. But, accepting that fact, and admitting that the enormous progress of our knowledge with regard to bacteriology will give us but little direct assistance in dealing with the problem of tumours, surely it is true that already the investigations of the Fund have given birth to great and important generalizations, which may be the foundation of a somewhat hopeful outlook as to the future. I will only mention two, which appeal to me very greatly. One is the investigations of the Fund with regard to the hereditary character of cancer. Now, let it be noticed that without our being able to observe relatively short-lived animals, it is almost impossible—in fact, it is quite impossible—to arrive at any conclusion as to the influence of heredity. The staff who carry out our investigations have set systematically to work to make these investigations into heredity in connexion with short-lived animals, and the result, surely, is of the utmost importance, for I gather that they have arrived at the conclusion that the question of heredity in connexion with cancer is almost negligible. I do not know that I may put it higher than that. At all events, nothing has so far clearly come out of the experiments conducted on a large scale which should lead us to believe that heredity plays a large part. That, I think, is a fairly safe statement, is it not? (Hear, hear.) If that statement be not unduly incautious, it points—it indicates, at all events—that it may prove that as these malignant tumours are not due mainly to hereditary influences, they are due to what we may very roughly, and sufficiently accurately for this purpose, describe as the accidents of life, or to causes which, at all events, are not inherent and innate in the organism at birth; and certainly the investigations of the Fund go to show that there are causes which undoubtedly do produce cancer even in the best behaved tissues, even in tissues which in the case of people leading the ordinary normal life never show, or hardly ever show, any malignant growth at all. Well, that surely must be an indication that something can be done to prevent or to diminish cancerous growth. I do not wish in the least to put it too high. I know Dr. Bashford is listening to me with nervous anxiety lest I should give too sanguine a view of the conclusions he has arrived at, and I wish to cut down my statements to the narrowest limits and put them in the most cautious way. But I do not think that even Dr. Bashford, with all his caution, will deny that the investigations made by the Fund into the manner in which chronic irritation unquestionably produces cancer may enable us materially to diminish as our knowledge increases the causes by which cancer is produced. If, then, we turn to the other—the more difficult, the more critical, and the more important problem of how malignant growths when they are present have to be dealt with—I think it would be a cruel kindness to suggest that we are even within sight of anything that can be called a new remedy for cancer. Yet surely we ought to draw encouragement from those remarkable series of investigations in which it has been shown that the growth and the spread of implanted cancer can be checked. It is quite true that no experiments hitherto made upon original tumours have given the same satisfactory results, but we cannot doubt—at least, I should think it is difficult to doubt—that there must be a difference only of degree, not of kind, between the original growth and the implanted growth, and it is, therefore, surely not unduly sanguine to say that, if in certain circumstances it has been found possible to deal successfully with the implanted growth, we need not abandon hope that by further extending our researches we may be able to deal also with the more virulent and refractory form of the original growth. At all events, that is the way in which it seems to strike the lay mind, and I hope Dr. Bashford will not think that I have gone too far in indicating those hopes, which, whatever he may say to the contrary, I individually entertain, but whether I shall live to see them bear fruit I really cannot say. Now surely, if I have not overstated the case, here are two great lines of investigation which we have attained, or are within sight of, conclusions of the utmost value and importance. And let no man think, let none of the lay observers and sympathizers with our work for one moment think, because that work is of great extent, because its foundation has to be laid on a broad basis of scientific experiment, and because the work of the Fund does not merely consist of taking up one after another particular suggestions which are thrown out, very often by quite competent people, in respect of special modes of dealing with cancer—let no man think that because that is not the main work of our Fund, the main work of our Fund is on that account other than the only possible method of working which is going to produce great and permanent results for the good of humanity. (Applause.) I apologize for having occupied so much of your time and for having spoken with so much fullness on a question on which after all every single man I am addressing is far more competent to say something to me than I am to say something to them, but it is not without its value that an outsider and a layman should give quite candidly his impressions of the work which has been done

and is being done, by this Fund. It may appeal to people to whom the technical reports which we issue from time to time make little appeal, and it may serve to encourage them in giving us that assistance without which even the most admirable scientific work must be brought to a premature conclusion. I do not think I need add anything more. I have already read the resolution which I am moving, and it is only necessary for me now to ask Sir Henry Howse to second the motion which I have the honour to propose.

The motion was seconded by Sir HENRY HOWSE, and carried.

Various Resolutions.

Mr. H. T. BUTLIN, President of the Royal College of Surgeons, moved:

That Sir Richard Douglas Powell, Bart., K.C.V.O., be appointed a member of the General Committee, and that Sir Watson Cheyne be re-elected a representative of the General Committee on the Executive Committee.

Mr. PEARCE GOULD seconded this motion, which was carried.

Mr. EDMUND OWEN moved:

That the Honorary Treasurer of the Fund be in future *ex officio* a member of the Executive Committee.

Mr. GERRARD FIENNES seconded this motion, which was carried.

Sir HENRY MORRIS moved:

That a cordial vote of thanks be accorded to the Right Hon. A. J. Balfour, M.P., for presiding at this meeting.

Dr. ARTHUR NEWSHOLME seconded the motion, which carried by acclamation.

LITERARY NOTES.

Malaria e Malattie Affini is the title of a new journal published in Rome. It is the organ of the National Anti-Malaria League. It is under the honorary direction of Professors Baccelli, Camillo Golgi, and Giovanni Battista Grassi. The actual directors are Professors Umberto Gabbi and B. Gosio. The editors are Drs Giuseppe Tropeano and Giuseppe Montoro. The editorial offices are at 62, Via Farini, Rome.

The "Notes and Queries" column, which for the last two years has been a special feature of the *Aberdeen Weekly Journal*, is a most interesting portion of that paper; when published in book form the material makes volumes of miscellaneous reading well worth possessing. Readers of the *Aberdeen Journal*, therefore, will welcome the appearance of the second volume, containing the "Notes and Queries" for 1909, which has been published quite recently (*Aberdeen Daily Journal* Office). The book, which is neatly bound and well printed, is a veritable treasure-house of all sorts of out-of-the-way scraps of knowledge, odds and ends of Scottish history, literature, and folk-lore, old songs, and half-forgotten legends. Its speciality, however, seems to be family history, more especially the history of families belonging to Aberdeenshire and Deeside; many of the genealogical tables and extracts from old church registers, family papers, and the like, which abound in this volume, are published in reply to questions from descendants or off-shoots from the main branch settled in some distant colony. A great deal of curious information may be gathered from these pages. For instance, there is a quaint story concerning the "far-famed Chalybeate of St. Kentigern," a healing well which at one time enjoyed a certain amount of reputation in Buchan, but which owed its glory to nothing more nor less than a successful practical joke. The following is the story as told by a contributor: J. M. and H. W., two New Deer worthies of a bygone generation—one of them practically interested in the Aesculapian art, and the other so much of a hydropathist that he went year after year for a long period to recruit his health at Macduff, at that time a favourite watering-place—were wont to take a stroll on fine Sunday afternoons along a rather unfrequented road leading from the village of New Deer to Auchmaleddie. About a mile from the village along this road was a common, and in the hollow of this common a spring of water with a peculiar taste. Sitting down by it to rest one sultry afternoon, their talk turned upon the advantage it would be financially to the village were it possible to attract visitors by the announcement of the discovery of the chalybeate qualities of the spring. The conclusion they arrived at, however, was that, unless something out of the common could be associated with, or given as a reason, for the starting of a movement to have it housed, there was no use making the attempt. At this juncture the two recumbent worthies happened to see approaching A. F., the local weaver, and one of them, remembering that he had a recently acquired musical snuff-box, then locally unheard of, in his pocket, thought it would be a good joke to set it so that it should begin to play shortly after the weaver had joined them. The weaver having seated himself beside them, they continued their talk as to the desirability of erecting a house in connexion with the newly discovered spa; the only element of uncertainty about the proposal was whether or not the patron saint of the parish, St. Kentigern, would smile on the undertaking. Presently the muffled music of the hidden musical box was heard by the weaver; all, of course, were, or appeared to be, awestruck. There could be no doubt about it! It was the sweet strain of unearthly music—Heaven's benison on the proposal. There was no sleep for the weaver, worthy man, that Sunday night; nor could he rest next day till he had told the news in all the shops and smithies in the village. The two principal actors were too much overcome by the incident to say much about it, except that there was no doubt whatever about the music having been heard, and that the hearing of it must be taken as a clear indication that it was the duty of the district to see the well, thus indicated to be a holy one, properly housed. Actuated by these things the villagers set to work with a will. A notice appeared in the *Aberdeen Journal* of June 25, 1845; subscriptions came in; a square unpretentious house was built, sufficiently large to enable the weaver to sell ginger-beer and ginger-bread to the pilgrims, who, for a time, frequented it in fairly large numbers. But with the demise of the weaver and his associates, and the dawn of the new era in therapeutic science, the place fell into disuse, became dilapidated, and was finally removed about 1890, nothing now remaining to mark the ruins of the projector's ambition and hopes. As can be seen from this narrative, the Scottish peasant of former days, nurtured in superstition, was not hard to deceive in matters relating to medicine, and therefore it is not surprising that a lonely village should be the happy hunting ground of a quack doctor. The "Prophet of Bethelnie," as he was called, had for many years quite a flourishing practice, thanks to the credulity of his ignorant neighbours. A brief account of his career is given in "Notes and Queries," and is worth quoting. "Adam Donald (born 1703, died 1780) was a deformed and eccentric native of the old parish of Bethelnie, who acquired the familiar local titles of "Satey," "Prophet," and "Doctor." Little attention was then paid to medical training or university degrees, and Adam was permitted to pose as a duly qualified doctor. His ointments and medicines, prepared from herbs gathered by himself, were believed by the credulous to be a remedy for every ailment under the sun. As a necromancer he frequented the lonely graveyard, professing to hold communion with departed spirits. When an article disappeared, or misfortune or loss occurred, nobody was so capable to reveal the secret or to prescribe the remedy as the redoubtable prophet! When so consulted he took care to give cautious general answers, capable of various interpretations, and whatever way the matter turned out he could invariably truthfully declare, "I told you so!" With the fishing population he was extremely popular, and his wonderful cures and still more wonderful revelations were retailed and multiplied by that body to an extraordinary extent. His customary consultation fee was sixpence, and, small as this sum may seem, he made money and won a wife. A daughter foolishly divulged the secrets of the imposition, and Adam fell into indigent circumstances. A picture of him was painted, and he expressed a desire that the following lines should be placed at the foot of it:

Time doth all things devour,
And time doth all things waste;
And we waste time,
And so we are at last!

A rough portrait of this old-world "sixpenny doctor" has been reproduced at the head of this account, and is one of the most interesting illustrations in the book. It should be added, however, that the illustrations, though not numerous, are all above the average in interest, especially the various portraits of Marschal Keith and his brother. It is safe to predict that "Notes and Queries," owing to the diversity of its contents, will appeal to a wide circle of readers, and it possesses also another and somewhat rarer merit: one is able to read it with pleasure from cover to cover. This alone should ensure for it the success it so thoroughly deserves.

SCIENCE NOTES.

THE second part of the new epidemiological publication, *Zur historischen Biologie der Krankheitserreger*,[1] contains an important contribution by Professor G. Sticker on the significance of the history of epidemics for modern epidemiology. In the first part of the same work Sticker had previously given an indication of his views in a short article on parasitology and loimology. These views have already been discussed in this JOURNAL,[2] and are to the effect that the present system of laboratory experiments and academic efforts (Schulversuche) is totally inadequate in the administrative treatment of epidemic diseases. Sticker begins with a short reference to the metazoan parasites, and the influence which a knowledge of their life history and mode of infection had upon the later study of bacteria. Now here at the very outset is an instance bearing directly against Sticker's views. The relatively larger size and simpler life conditions of the metazoan parasites render them easier to follow throughout their various phases. The simple, but at the same time comprehensively accurate laboratory experiments of Leuckart did more in a few years to illuminate our knowledge of the diseases caused by these parasites than as many previous centuries of philosophical and historical research had done. Of all epidemic diseases, those due to metazoan parasites are probably dependent on the least involved factors, and it is this comparative lack of complexity which enabled us to elucidate them thus early. Following the same lines, but with greater experience and more laborate methods, it is not too much to expect that xperimentation will eventually solve all the problems of epidemiology, and that in a more rapid and conclusive manner than the most acute and painstaking historical research. Sticker, however, does not linger on the metazoan parasites, but passes immediately to the diseases due to bacterial and protozoan infection. He proceeds to give a detailed history of plague, on which he is a recognized authority. The account is extremely interesting, but one is inclined to wonder that the author, after collating such a historical record, could have had any doubts left as to the inestimable value of laboratory and clinical methods. For at least 3,000 years man is known to have been afflicted with this terrible scourge. It was early recognized as infectious, but it is not so very long ago since its connexion with animals was hardly more than suspected. The long array of administrative regulations, all misdirected and utterly futile, demonstrate the absolute unreliability of public opinion on matters of observation, while the harsh and unnecessary laws framed by quavering sceptics, and the vindictiveness of the populace against those bold enough to dispute their superstitious beliefs, form another striking instance of man's terror of the unknown. It is only sixteen short years since the plague bacillus was discovered, and yet Sticker is already impatient; he would have us refer to the wearisome tale of the bygone ages to hasten matters on a bit. Further short notes are added on the other principal infectious diseases, and several statements are made which are rather beside the point. For instance, in connexion with malaria, he says: "The present formula for the disease runs, 'alternation of generations of *Plasmodium malariae* restricted to man, and a definite mosquito, *Anopheles claviger*.' Epidemiology has thankfully received this formula, but at the same time asks, Does this cover the whole effective cycle? The scholastic view is . . . that all epidemiological facts must fit in with this formula. The history of malaria teaches otherwise it teaches that in malarial localities and in epidemics of malaria, besides men affected with the disease, the animals—cows, goats, sheep, horses, dogs—also suffered." Now this, as Sticker himself admits, is a matter which has been disputed and otherwise interpreted. It is, moreover, a matter of observation which can be confirmed or disproved by actual experiment, and it assuredly does not necessitate the aid of any special research into the history of malaria. Much the same remarks with regard to animals are made in the case of Malta fever. It seems hardly necessary to point out that, as has indeed been shown, there may be other diseases simulating or even closely allied to Malta fever, or in fact any disease for that matter of it, and that biologically we have no reason for believing that animals are not subject to diseases similar to those afflicting man. We are hardly prepared to admit, however, that modern epidemiologists are so very strongly tied down to restricted epidemiological formulae as Sticker would have us believe. It is, we take it, the essence of experimental investigation that no possibility should be approved or dismissed until it has been subjected to the most rigorous and far-reaching examination, and that any formulation of results is merely tentative. The experimental method has stood the test in all the sciences, and it is hardly likely that it will fail us in epidemiology. In speaking thus strongly against Sudhoff and Sticker's views we must not be understood to see no virtue in them. It is universally recognized that the history of a disease forms a most important guide to experimental work bearing on it, and Sudhoff and Sticker have done well in endeavouring to impress this more strongly. Historical research, however, can only be an aid and guide to, and and not a substitute for, experimental research, and it is to its claims in the latter respect that we take exception. What is at fault is not the laboratory method but the administrative use of experimental results, and it is here, if anywhere, that history has something to teach us.

In the *Archives Italiennes de Biologie* for last year there is an article by Sacerdotti on the blood platelets of mammals and an antiplatelet serum. By means of sodium citrate the platelets can be separated from the heavier elements in the blood, and, if the platelets from the blood of a dog are injected into a rabbit, the serum of the latter acquires a special activity against the platelets of the dog. This can be demonstrated both by agglutination methods and by injecting the serum of a prepared rabbit into a dog; this causes the platelets in the dog's blood to almost entirely disappear. They reappear gradually after the experiment, and in about three or four days their number is almost normal again. This occurs even in cases where the spleen has been previously extirpated. The blood platelets can be caused to disappear by injecting peptone or some heterogeneous serum, but in this case the disappearance is transitory, and they reappear rapidly. The antiplatelet serum obtained as above described is specific, and it exercises no action on the erythrocytes. From this it would appear that the platelets are not derived directly from the red blood corpuscles, or, if there is a connexion between them, it can only be allowed on the supposition that the derivative—namely, the blood platelet—is a body possessing distinctly different biological characters from the parent corpuscle.

UNDER the will of the late Mr. Richard Peyton of Edgbaston, the following Birmingham institutions benefit to the amounts stated against their names; The General Hospital and the Free Hospital for Sick Children, each £3,000; the Queen's Hospital and the Hospital for Women, each £2,000; the General Dispensary, the Institute for the Blind, the Institute for the Deaf and Dumb, and the Sanatorium, Blackwell, each £1,000.

MESSRS. SALT AND SON, of Cherry Street, Birmingham, have succeeded, we are informed, in adapting the principle of their patent kidney belt to a corset for women sufferers from floating kidney. As the corset also plays the ordinary part of such article of attire, the inconvenience of wearing both belt and corset is avoided. The belt itself has an inflated pad placed diagonally about 1 in. below the costal margin, and about 2 in. to one or other side, as the case may be, of a line drawn perpendicularly through the umbilicus. Pressure of the pad in the right direction is secured by a spring, while straps and buckles prevent the rising of the belt out of position.

[1] Edited by Karl Sudhoff, Leipzig, and Georg Sticker, Bonn. Heft 2, pp. 44. 1910. Giessen: Alfred Töpelmann. (M. 1.40.)
[2] BRITISH MEDICAL JOURNAL, July 16th, 1910, p. 156.

British Medical Journal.

SATURDAY, JULY 23RD, 1910.

MEDICAL ATTENDANCE UNDER STATE SICKNESS INSURANCE.

IT is of prime importance from an actuarial point of view that as accurate an estimate as possible should be made as to the amount of medical attendance that will be required by persons insured under State sickness and invalidity schemes. Equally important is it from a professional point of view to know what would be reasonable remuneration. The suggestion has been made that medical attendance should not be included in the list of benefits provided by the insurance, and that patients should be left to arrange as they choose. But it must be recognized that a proportion of the working classes, even when in receipt of full wages, much less when on reduced sick pay, could not afford to provide for themselves adequate medical attendance in the ordinary way. The omission of a provision for medical attendance from State insurance would doom the whole scheme to failure from the beginning, as it would be wanting in what the working classes would regard as one of the most important benefits of insurance.

Assuming, then, that medical attendance will be one of the benefits of State insurance, any estimate of the cost must regard several factors in a different way than the friendly societies regard them. In the first place, the friendly societies only admit healthy persons, and generally refuse all above a certain age. But neither of these two limitations could be maintained under a State insurance. To exclude a man suffering from early phthisis or heart disease would be tantamount to refusing to accept any contribution from him while he was able to work, and it would be cheaper for the State to accept him at only a slightly higher premium than to refuse him, with the probability of being compelled later to support him altogether out of the poor rates. The question of age will only need considering during the first few years after the insurance is established, as all persons liable to be insured will have to enter on attaining a certain age, say about 18. In ordinary insurance the premiums are, of course, higher in proportion to age at entrance, but it may not be considered advisable in State insurance fully to insist on this, and specially favourable terms may be given for the first few years after the insurance is established to persons already advanced in years. It should, however, be clearly understood that any loss from such favourable terms should be borne by the State department. It is important to recognize how greatly sickness incidence increases with age. This is well shown in the tables prepared by the Manchester Unity of Oddfellows for the years 1893–7, which give the rates of sickness in weeks per year for each member on the books.

For ages	under 20	the sickness-rate was		0.92	weeks per year.
,,	from 20 to 30	,,	,,	0.95	,,
,,	,, 30 to 40	,,	,,	1.27	,,
,,	,, 40 to 50	,,	,,	1.99	,,
,,	,, 50 to 60	,,	,,	4.02	,,
,,	,, 60 to 70	,,	,,	10.59	,,

Thus a person 50 years of age has more than double the amount of sickness that a person of 20 has, while one of 70 has nearly a dozen times as much. The differences probably account for the varying reports given as to the amount of medical work done in different sick clubs. Newly established clubs consist almost entirely of young persons with little sickness, while older clubs have a varying proportion of aged members who require more attendance. If, then, the State department thinks fit, in order to make sickness insurance attractive, to offer favourable terms to those already advanced in years when the insurance is established, it ought not to be done at the expense of the medical profession, as the difference in the amount of work would be very considerable.

Again, in actuarial calculations of that part of the premium which is to cover medical attendance, we must include several items under the general term "medical attendance." These items may be grouped under three heads: (1) Hospital treatment; (2) special treatment, such as confinements and operations; and (3) ordinary medical treatment at patients' homes and doctors' surgeries. For some time probably hospital treatment for the insured will be obtained by payments out of the insurance funds to existing hospitals, but eventually it is likely that the insurance department will provide its own hospitals and sanatoriums.

It is not to our present purpose to estimate what the cost of this may be. What more nearly concerns general practitioners is that some fairly accurate estimate should be formed of the amount of work involved in such treatment as is given at patients' homes and at surgeries. Very little assistance can be got from the reports furnished to the Chief Registrar of Friendly Societies. It appears that the friendly societies do not render separate accounts for their expenditure on medical attendance, and inquiry at the Chief Registry has elicited the reply that "There is no information at present available as to the aggregate amount expended by friendly societies in providing medical assistance for their members, the cost of medical aid having hitherto been included with expenditure for sickness pay." Many of the societies, however, give an average sickness incidence per member on their books as far as sick pay can show it. From the Directory of the Ancient Order of Foresters for 1910 we find that the Order had at the end of 1909 about 610,858 adult male benefit members in Great Britain and Ireland. Of these, 182,153 received sick pay during the year, averaging a little over fifty-eight days each, which is three days a year more than in 1908. Spreading this over the whole of the members, there were 10,569,705 days' sickness recorded in the year, which is an average of 17.05 days' sickness for each member on the books. In the year 1899 the average was only 12.75 days, so that the sickness incidence has increased 4.3 days in the last ten years. This increase is characteristic of practically all the friendly societies, and is going on uniformly and continuously. One cause is probably the rise in the average age of members as the societies themselves grow older, but there is a tendency of late years for the members to take more advantage of the benefits, and they seem readier to "declare on" the club than formerly. The Foresters have also 123,000 juvenile members from 1 to 18 years of age in Great Britain and Ireland, and these had a total of 324,472 days' sickness, which is an average of just over 2½ days' sickness per member per year. This is only about one-seventh as much as the sickness

among the adult male members. The sickness among the female members is not given. Figures not much different are given by the Manchester Unity of Oddfellows, where on an average each adult benefit member received about 2½ weeks' sick pay per year. In the Hearts of Oak the average is about 16 days.

It is important to note that what is called the average sickness of sixteen or seventeen days per year is in reality only the time during which sick pay has been given. The figures are in fact misleading if we wish to know the actual amount of sickness experienced, for it often happens that members are ill for a few days, and may even stay away from work without declaring on the club. In addition, they often consult the club doctor for temporary illness without staying from work, and the societies have no record of all this. The actual sickness incidence is, in fact, considerably more than seventeen days. Indeed, some of the medical men who replied to the questions issued by the British Medical Association considered that the odd consultations given to members not actually on sick pay constituted the greater part of the work. There is, at any rate, little doubt that such casual consultations do form a considerable part of the club doctor's work. On the other hand, it sometimes happens that sick members prefer to pay a private doctor, though they have a right to the services of the club doctor. Allowing for all this, it will probably not be far wrong to say that in the three large friendly societies every member is under the care of the club doctor for about three weeks per year, and, if two visits or consultations were allowed for each week of sickness, every member on the books would receive six attendances per year. This is somewhat at variance with the figures given by Dr. Gosse in the BRITISH MEDICAL JOURNAL for June 4th for the National Deposit Friendly Society. It is stated that in the year 1909 this society had 201,849 members, and the "medical pay" was £32,138, which is only 3s. 2½d. per member, while in the previous year it was slightly under 3s. 2d. It would appear from this as if the income to medical men from this society were even less than from the ordinary 4s. club; and as the society pays 2s. 6d. per visit and 1s. 6d. per consultation with medicine, there would seem to be an average of less than one visit and one consultation per member per year. But it is impossible to rely on the figures given until it is ascertained whether this amount of 3s. 2d. is only what the society paid out of its own funds, or whether it also includes what was paid out of the members' private deposit funds. If the latter is not included, the total amount received by the doctors would be much more than 3s. 2d.; and, considering that in the three large friendly societies above mentioned the members on an average have about three weeks' sickness per year, it is almost incredible that there should be so much less sickness in the National Deposit Friendly Society as only to require one or two medical attendances per member per year.

But by far the most reliable statistics as to the amount of work done for club patients are those obtained by the British Medical Association in its inquiry into the conditions of contract practice. The number of clubs of which accurate particulars were obtained was 269, with 40,893 adult male members. These received 167,405 visits and consultations in the year, which is an average of 4.1 per member on the books. This is probably somewhat below the actual number, as visits and consultations which did not coincide with supply of medicine have often not been recorded. We have already seen that the average sickness incidence of members of the friendly societies is about three weeks per year, and, putting the two facts together, it cannot be far wrong to estimate that each person insured will require about five visits or consultations per year. As the average annual fee of the 269 clubs referred to was 3s. 7½d., it will be seen that the remuneration was about 10½d. per attendance with medicine. If we assume that the visits and consultations were about equal in number, and if 2s. 6d. had been allowed for each visit with medicine and 1s. 6d. for each consultation with medicine, as is done in the National Deposit Friendly Society, a slight calculation will show that the annual fee would have been about 8s. 2d., or, making a little allowance for the attendance given but not recorded, it may be said that a subscription of 2d. a week would have allowed of the doctors receiving about 2s. 6d. per visit and 1s. 6d. per consultation. But it is necessary to note that this only refers to ordinary medical attendance at the patients' homes and the doctors' surgeries. It takes no account of operations, confinements, anaesthetics, fractures and dislocations, for which some clubs at present rightly make special provision, and which, even in the absence of special provision, are often understood not to be covered by the ordinary club fee. There would undoubtedly be an advantage from a public point of view in having as few extras as possible, or even in arranging one general fee to cover everything. But in the case of operations there are practical difficulties against including them under any general contract fee, as they may often be better referred to specialists than to the regular medical attendant. To include some of the other items which are very irregular but which entail so much extra work when they do occur, must materially increase any inclusive fee. The addition of regular medical inspection of persons not on the sick list, as Dr. McVail suggests, would also make a difference. On the other hand, if medicines were supplied by recognized pharmacists or at dispensaries belonging to the insurance department, some deduction might be made. Special arrangements, too, would have to be made for persons advanced in age or suffering from illness at the time when they were accepted for insurance.

Thus it would be altogether premature to name any contract fee until the requirements of the service are known. The relative merits of payment per head and payment for work done are a different question which the Association has under consideration, and the object has here been only to show what amount of work may have to be done by the medical men. Only when that is known can the insurance premiums be actuarially fixed at such an amount as will allow of reasonable remuneration for medical services, whatever system be adopted. It would seem as if this had not been properly done in Germany, or, if it were, part of the amount calculated and which ought to have been ear-marked for medical attendance has been diverted to increase the other benefits or to augment the funds available for the establishment of sanatoriums, workmen's sanitary dwellings, baths, and so on. All these are excellent objects in themselves, but an unflinching opposition ought to be made to any attempt to increase the other benefits of the insurance at the expense of the medical profession. All that the profession demands is that the actuarial calculations for fixing the insurance premiums should make due allowance for reasonable fees for medical attendance.

CANCER AND DIABETES DEATH-RATES.

DR. G. D. MAYNARD, who is rapidly winning for himself a high place among the small but enthusiastic body of trained medical statisticians, publishes a memoir of great interest in the current number of *Biometrika*.[1] He has worked on the statistics of various cities and districts in the United States, and finds that the increased death-rates of cancer and diabetes which have been observed in recent years do indicate real differences in the prevalence of the diseases, the evidence being most striking in the case of cancer. The age curve of diabetes indicates special peculiarities which have not yet been fully examined. The various sources of error in the material are discussed in a clear and convincing manner. It is customary for opponents of modern statistical methods to assert that conclusions are invalidated by various sources of error, without taking the trouble to inquire as to the exact effect which such errors if demonstrated would exert. Dr. Maynard's treatment of the problems which arise affords a refreshing contrast to this obscurantist method.

Dr. Maynard also finds a high correlation between the death-rates from cancer and diabetes, and between both these death-rates and the insanity rates. On the other hand the cancer death-rate is not appreciably correlated with any meteorological conditions. Dr. Maynard justly remarks that whatever theory as to the causation of cancer is adopted, some explanation of the remarkable correlations between cancer, diabetes, and insanity is required. As a provisional explanation, he suggests that conditions of modern life, acting on physiologically unsound material, may account for the statistical inter-relationships of the three disease groups. The matter is of such interest that we hope Dr. Maynard will continue his researches.

In connexion with this paper a discussion has arisen as to the interpretation of indices. Some years ago Professor Karl Pearson pointed out[2] that if ratios or indices a/b and c/b are formed from three entirely independent variables, a, b, and c, then a "spurious" correlation will be found between the two ratios, a correlation not necessarily indicating any organic relationship. Evidently when death-rates are correlated such "spurious" correlation necessarily arises. Dr. Maynard was aware of this fact, and applied the necessary correction, but the same source of uncertainty was reintroduced when the populations were corrected for age differences in the ordinary way, and it was a matter of difficulty to make appropriate allowances in this case. In the May number of the *Journal of the Royal Statistical Society*[3] Professor Pearson published an ingenious method of estimating the amount of "spurious" correlation due to age adjustment, and his corrected results do not differ substantially from those reached by Dr. Maynard. Mr. C. Udny Yule has published[4] a note in which he argues that Professor Pearson's correction is unnecessary, and that his interpretation of "spurious" correlation is erroneous in the case of death-rates. Mr. Yule writes: "All the causes in which we are interested—the nature of which we wish to elucidate—determine directly the *death-rate*, not the number of deaths. The number of deaths is determined mainly by the population of the district It is clearly the *ratio* of deaths to population which is directly influenced by the sanitary character of the district and the physical character of the individuals living therein. . . . There is not, it seems to me, any question whatever of a 'spurious correlation' due to variations in the magnitude of population alone. To enforce the point, we may note that, within the limits of sampling, the death-rate of a district will be precisely the same whether we deal with the whole population or with a random sample of it of any given size. We may then take from every district a sample of constant size, and obviously no question of spurious correlation can then be raised; but the correlation will, within the limits of sampling, be the same as before." Mr. Yule then proceeds to argue that in these cases it is the correlation between the absolute values of the variables which is the "spurious" or misleading correlation.

Mr. Yule's objections are worthy of close attention, but it is not easy to accept his contention that the factor of absolute size can be dismissed in this way, An elaborate unpublished investigation of certain mortality statistics, relative to a disease not directly communicable from man to man, shows that absolute size has an important bearing on the death-rate, and further that the correlation between absolute size and number of deaths is of a peculiar kind, being in all probability not a linear relation. There are, indeed, many reasons why absolute size should be regarded as an important factor the evaluation of which is absolutely necessary. The influence of absolute size on the number of deaths cannot be properly shown by, for instance, correlating death-rate and population, owing to the introduction of "spurious"—or, perhaps, it would be better to say "arithmetical"—negative correlation, which might lead the importance being underrated of the relationship, unless the absolute correlation has been separately determined.

The whole subject of the proper use of ratios is of particular importance in connexion with medical statistics, and requires further study. In certain practically interesting cases the ordinary method of treatment is inapplicable, because the variables from which the ratios are formed do not conform to the condition upon which the classical theory depends—that is, that deviations from the mean values are so small that the higher powers of their ratios to the mean can be neglected. A general treatment of the problem is not free from mathematical difficulties. The importance of this matter in connexion with medical statistics, which mainly deal with ratios, is so obvious that we have thought it worth while to call attention to what is rather an abstruse point in the technique of statistical inquiries.

[1] *Biometrika*, vol. vii, pp. 276-305.
[2] *Proc. Roy. Soc.*, lx. 483.
[3] *Journ. Roy. Stat. Soc.*, lxxiii, 534.
[4] Ibid, lxxiii, 644.

THE RATIONAL PUERPERIUM.

MEYER and Von Alvensleben have, within the last few years, strongly urged early rising in normal puerperal cases. Their statistics were based on 100 cases apiece, not a very large number, but sufficient to show that 100 cases, more or less carefully treated and more or less carefully watched, were rather the better than the worse for early rising.

Last year Dr. F. W. N. Haultain advocated a "Rational Puerperium" in a communication read before the Obstetrical Society of Edinburgh.[1] He believed, after much experience, that most other obstetricians had lived and practised in error when they held that the conduct of the puerperium ought

[1] "A Plea for a Rational Puerperium," BRITISH MEDICAL JOURNAL, August 7th, 1909, p. 307.

not to be merely the management of the sequel of a normal function, but rather the treatment of convalescence from a severe illness. He had for long held that theory and practice to be based on error, and therefore was not surprised to find that Von Alvensleben[2] urged the advantages of a "rational puerperium." Dr. Haultain at once gave the practice a trial. His conclusions, based like those of his predecessors on 100 cases, were favourable to the innovation, but we must once more remember that the patients were carefully treated and carefully watched under favourable conditions not usually possible of attainment in general practice. He found that septic inflammation, uterine displacements, subinvolution, and pulmonary thrombosis and embolism were not favoured by early rising in childbed. Only 3 per cent. of his cases suffered from any complication developed after rising, 2 patients showing a trifling rise of temperature. A woman subject to varicose veins suffered a little, but not nearly so badly as in her seven previous confinements. In reply to Dr. Haultain, Dr. J. W. Ballantyne read before the same society an eloquent address, which also appeared in full in our columns[3] and led to an active debate.[4] Dr. Ballantyne showed great caution in expressing his own opinions. He favoured systematized exercises in the horizontal position, but insisted that they were very frequently contraindicated; yet they proved safe and beneficial when rising on the third day was unjustifiable. His conclusions, however, ended with the words, "I should not otherwise alter the ordinary management of the puerperium in private practice." By "otherwise" he meant that strict maintenance of the dorsal posture need not be insisted on.

Madame Darcanne-Mouroux has recently read, before a meeting of a French society, an important record of her experiences in Brittany,[5] where the female population is for the most part healthy and free from certain prejudicial influences prevalent in great centres of civilization. The Breton peasant woman considers that, as a matter of honour and duty, she should rise between the second and eighth day of the puerperium. Yet Madame Darcanne-Mouroux, who was an *interne des hôpitaux* in Paris, having carefully watched 100 cases in the Department of Ile et Vilaine, came to the conclusion that the Bretonne is actually the worse for her practice of early rising after delivery. In only 27 per cent. were the pelvic organs quite healthy at a fair interval of time after convalescence. It is true that phlebitis was observed in only one case; old-fashioned doctors would have expected a higher percentage, but there were 22 cases of metritis associated with subinvolution, 20 of prolapse in the second degree, and 13 of retroversion. "Exaggerated anteversion" was registered in 6, advanced colpocele in 6 and inflammation of the appendages in 5. These results seem highly unfavourable. In the discussion which followed the reading of this communication, Doléris, after dwelling on the fact that Breton peasants are very different from most women in urban and suburban districts, said that he had given a fair trial to the practice of early rising in the Tenon Maternity, but that the results were unsatisfactory, and he had given it up. Pinard and Siredey were of the same opinion.

The prolapse question is closely associated with the limitation of the puerperium. Doléris found that displacements depended much on the individual. Women who had borne over a dozen children and taken no care of themselves might remain free from any form of displacement, whilst others acquired disagreeable infirmities of this type after the first or second labour. Subinvolution, very common in these cases from Brittany, has a distinct relation to lactation. This question was alluded to by Pinard. We may observe that no statistics about lactation in the 100 cases were reported, that some of the patients worked at factories, and ought, therefore, strictly speaking, to have been excluded, and lastly, that Madame Darcanne-Mouroux had no case with febrile complications to report. This last fact will no doubt be taken into account by the advocates of early rising after the removal of large uterine and ovarian tumours. Dr. Haultain, as we observed, found very little trouble from rise of temperature in his series.

The general conclusion would seem to be that the puerperium was and still is artificially prolonged, but how far it may be shortened with benefit to the patient remains uncertain. Scientific obstetricians will demand a far larger series of statistics than are at present at their disposal before the limits of the "rational puerperium" can be defined.

RESEARCH DEFENCE SOCIETY.

WE call the special attention of all readers of the BRITISH MEDICAL JOURNAL to the particulars concerning the Research Defence Society which appear at p. 37 of our advertisement columns. We have on many occasions described the work of this society, and it is not necessary to dwell on it at great length here. During the short time it has been in existence it has done an immense amount of good in clearing the mind of erroneous notions concerning animal experimentation and exposing the misrepresentations sedulously propagated by the antivivisection societies. The society has organized a counter propaganda for the enlightenment of persons not conversant with scientific matters as to the incalculable benefits which this method of research has conferred not only on men but on animals—our "poor relations" who suffer like ourselves. The society answers all questions addressed to it on the subject of experimental research through the able and devoted Honorary Secretary, Mr. Stephen Paget. It distributes leaflets and pamphlets in which the results of such research are set forth in their true light; it makes arrangements for addresses and lectures illustrated by lantern slides. Founded only two and a half years ago, the society already has a membership of 3,370 not including 160 Associates. Among its members are many men of the highest distinction in various spheres of intellectual activity. We believe it has a great and important future before it, but it is still only in its vigorous infancy. More branches must be formed so as to include the whole country within the scope of the society's operations. We think it well to lay stress on the fact that its work has a personal concern for every medical practitioner. It is only by experimental research that the art of healing can be transformed into an exact science. The more truly scientific medicine becomes, the greater will be the power for good of those who practise it, and the greater, too, will be their influence with the people and their status in the community. In this way the profession will accomplish its beneficent mission more and more effectively; it will gain

[2] *Das Aufstehen des Wochnerinnen in der ersten Tagen der Wochenbetts.*
[3] "An Address on the Rational Puerperium," BRITISH MEDICAL JOURNAL, January 1st, 1910, p. 4.
[4] Ibid., January 22nd, p. 201.
[5] "Note sur le lever précoce des accouchées," *Comptes rendus de la Soc. d'Obstét. et de Gynéc. et de Pédiat. de Paris*, April, 1910, p. 188.

in this way, too, that high place which Mr. Gladstone foretold for it. The prosperity of the Research Defence Society, therefore, closely concerns the whole medical profession; and we venture to think it is the duty of every medical practitioner to become a member. This entails no onerous obligations; the annual subscription for members is only five shillings; for undergraduates and students of medicine it is half that amount. Members who attend the forthcoming Annual Meeting will do well to visit the stall in the Museum which has been allotted to the society. This will enable them to see for themselves the kind of work which the society undertakes and the means by which it is carried out. The exhibit should appeal with particular force to all who are interested in the work and progress of science, which is the foundation stone of rational medicine. We earnestly hope that one of the results of the London meeting will be a large increase in the membership of the Research Defence Society.

QUACKERY AND CRIME.

As there are some businesses which it is almost worse to own than to serve, we deem it a duty to the missing "Dr." Crippen to mention that he was not the owner, but merely the hired employé of the aural remedy business associated with his name. That business figures in *Truth's* "Cautionary List" of medical quack undertakings, and its real owner has hastened to point out that as soon as he became aware that his "consulting expert" had been accused of murder his name was removed from the premises. He added that on being bereft of his expert's services, he had carried on the business as best he could. It sounds a bad look-out for the patients, but, knowing the lines on which treatment at such institutions is commonly afforded, it may safely be assumed that the results are likely to be neither better nor worse than before. But, while being fair to "Dr." Crippen, it would be improper not to be equally fair to reputable medical schools in America, so we add that at present it has not been shown that this individual owns a diploma from any of them. With very few exceptions, all reputable medical diploma granting bodies in America belong to an association formed a few years ago under the title of the Association of American Medical Schools and Colleges. It was created for the purpose of raising the standard of medical education in America, and to do something towards protecting respectable schools from bogus teaching and diploma-selling institutions. The present incident adds one more to the number of instances in which persons actively engaged in quackery of a medical order have been implicated in criminal charges having no direct connexion with their occupation as quacks. The number of quacks, of course, is legion, but the proportion of them who have come into the law courts in some other connexion is too large to be simply coincidental. That there should be a demonstrable sequential relation would not be altogether surprising. There may be a certain number of quacks who are merely self-deceivers, and, therefore, so far as their personal convictions go, perfectly honest persons, but the average quack conducts his purse-opening practices far too skilfully to be regarded as a fool, and, living as he does by fraud, it is scarcely peculiar that he should frequently fall into the nets which sooner or later entrap most persons of criminal tendency. Besides, for that matter, there are murders—though the Holloway tragedy would not seem to be one of them—which are less of a moral crime than offences of an ostensibly minor order. But among the latter we should not be disposed to class deliberate quackery. The results to the patients are too serious. Apart from spending sums of money often far beyond their means, they are led to refrain from resorting to well-considered advice until their disease has gone too far to be susceptible of material relief and still less of cure.

NURSING ASSOCIATIONS AND POOR LAW REFORM.

AT a recent conference of associations affiliated to Queen Victoria's Jubilee Institute for Nurses, Dr. Arthur Shadwell, a sociologist of long experience, endeavoured to forecast the effect on voluntary nursing associations of the Poor Law reform schemes now in the air. He first classified current thought on the subject as being represented by the Minority Report, Majority Report, and independent reformers. The latter held that present defects in dealing with the poor could be made good by introducing certain reforms in administration without destroying existing institutions of long standing or abandoning well tried principles. It was the views of such thinkers which were most likely to prevail. In that case he thought there would be no interference with nursing associations. The Majority Report, on the other hand, proposed the formation of certain health committees, which would take over the chief responsibility for the medical treatment and nursing of the sick poor in their own homes or elsewhere. Such committees would require to know exactly what nursing associations were doing and how they were doing it. It would be part of their duty to find this out, and from that to directing them, supplementing them, and eventually supplanting them, was but a short step. Moreover, it was a step which would inevitably be taken, however little it might be desired or intended. The position would be still worse if advocates of the Minority Report won the day. In that case nursing associations might put up their shutters forthwith. That report proposed to give to local health committees the power and the duty to search out all cases within their area needing medical or nursing assistance, and furnish whatever was necessary. Nursing associations were not mentioned in the report; the authors probably knew and cared nothing about their work. It was enough that they were voluntary agencies, and one of the leading principles of the scheme was to supersede voluntary agencies. It was true that the report proposed to enlist voluntary workers, but only as the unpaid servants of the local authorities. They were to do nothing on their own initiative and their own responsibility; they were to have none; and this meant that as voluntary agencies they would cease to exist. All the responsibility was to rest with the public authority, and its duty was to prevent destitution. These were cardinal points in the scheme. Now district nursing was a great agency—perhaps the greatest in existence—for the prevention of destitution, because it gave help at the right time, of the right sort, and in the right place. But every one knew what happened to voluntary efforts when public authorities with a bottomless purse entered the same field and proceeded to do the same work. The voluntary efforts expired of inanition; people would not pay for both.

CONDUCT AND INSANITY.

AT the last quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland, Dr. Mercier raised a question as to whether the syllabus laid down by the Association for its diploma in psychiatry is of a sufficiently comprehensive kind, or

whether it should not include and place in the foreground the systematic study of conduct as an index of insanity. It is a point which those who belong to the Association are obviously best able to determine for themselves, and no one aware of the dangers of interposing between the hammer and the anvil would venture an opinion thereon. Out of the indeterminate discussion of this question, however, there arose an issue of interest alike to alienist and non-alienist practitioners. At its base lies the view which should properly be taken of the inter-relations of conduct and insanity. Since the mind is not open to direct observation, it is clear that its condition must chiefly be inferred from the conduct of the individual. It would also seem equally clear that since conduct is largely a question of environment (including in that term age, customs, and class), insanity of mind can scarcely be inferred from conduct with assurance until minute search for a reasonable, even if totally immoral, motive for any disorderly or unusual conduct has proved futile. But although this is generally admitted, there would seem to be a tendency among a certain number of alienists to set aside these considerations and to write down any departure from accepted codes of conduct or belief as *ipso facto* evidence of an insane mind, and then to take that insane mind as a perfect explanation and excuse for all forms of disorderly conduct, especially those which bring the individual into contact with the law. This being the case, there would seem to be plenty of room for discussion on two points. One is, What term should be applied to persons whose mental processes are not those of their fellows and who are the subjects of delusions, but whose conduct from beginning to end of their life differs in no material fashion from that of those among whom they live? The second question would be, What forms of disorderly conduct might rightly be attributed to, or reasonably be expected to result from, various forms of admitted mental disorder? A deliberate attempt to settle these two questions on an authoritative basis might conceivably lead indirectly to a narrowing of the gulf that has always existed between alienists and lawyers on the subject of insanity, and entirely close the rift, of which there has been some evidence of late years, between the opinions of alienist and ordinary medical men on the same subject. The same debate might also either show that there is no difference scientifically between certifiable and non-certifiable insanity or determine the grounds on which such a distinction should be drawn in any given case.

THE PHIPPS INSTITUTE.

THE University of Pennsylvania is, we learn from the New York *Medical Record*, preparing to carry on the work of the Henry Phipps Institute for the Study, Prevention, and Treatment of Tuberculosis, for which Mr. Phipps already has provided more than £1,000,000. Ground has been acquired in Philadelphia for a hospital, and the donor and the trustees have approved the report of a committee appointed to outline the policy of the Institute. There will be three general departments, each with a director. Dr. Paul Lewis, of the Rockefeller Institute for Medical Research, will be the director of the laboratory; Mr Alexander M. Wilson, of the Boston Association for the Relief and Control of Tuberculosis, will be in charge of the sociological, and Dr. H. R. M. Landis of the clinical department. There will be a board of eight directors, and in addition an advisory council has been created which will meet once a year. The following are members of the council: Dr. Samuel G. Dixon, of Harrisburg, Pa.; Dr. S. McC. Lindsay, of New York; Dr. William H. Baldwin, of Washington, D.C.; Dr. Hermann M. Biggs, New York; Dr. William H. Welch, of Baltimore; Dr. Theobald Smith, of Boston; Dr. Gideon Wells, of Chicago; Dr. Simon Flexner and Dr. James A. Miller, of New York; Dr. Laurison Brown, of Saranac, N.Y.; Dr. Henry Baird Favell, of Chicago; and Dr. James Pratt, of Boston.

THE DANGERS OF FLANNELETTE.

AN important series of tests on the inflammability of certain textile materials has been carried out by the British Fire Prevention Committee, and a full account of the tests, with the suggestions of the Committee for legislation on the subject, is published in book form as No. 148 of the "Red Books" of the Committee.[1] The test which is proposed for adoption as a standard is that a square yard of the material shall be ten times washed with soap and water and ironed, and it being then dry and suspended vertically from one edge, that a standard flame shall be applied to the bottom edge for from fifteen to thirty seconds; if then not more than one-twentieth of the whole area of the fabric is burnt within sixty seconds, the material shall be classed as non-flaming. It is suggested that material which cannot be so classed should have woven or printed into every yard of the selvedge the words "burns rapidly," or, if sold in the form of ready-made garments, the words should appear twice on the principal band or inner hem; that any such material or garments sold as non-flaming should be marked in a similar manner with the words "non-flaming"; that no flannelette made abroad should be admitted unless it is non-flaming and bears the maker's name; that any firm selling union or flannelette not marked as described, or selling as non-flaming a material not complying with the test, should be liable to prosecution as for an offence under the Sale of Food and Drugs Acts; that parents and guardians should be specifically responsible for death or injury by fire to children wearing union or flannelette marked "burns rapidly"; and, finally, that local authorities should issue warnings on the subject. There can be no doubt that legislation more or less on these lines is urgently needed, and would do much to prevent the many deaths which occur through the heedless use of flannelette. The Committee's experiments included tests of ordinary flannelette, flannel, "union" (a mixture of wool and cotton), and "non-flam" flannelette both unwashed, and washed five, ten, and twenty times; and it is satisfactory to notice that their results entirely confirm the results of tests made for this JOURNAL some time ago with regard to the last-named.[2] Ordinary flannelette burnt with the greatest rapidity, being in many cases entirely consumed in sixty seconds and being more inflammable after washing than before; "union" proved very inflammable, especially when washed, half the sample of washed material being consumed, on the average, in sixty seconds. Flannel and "non-flam" flannelette were alike in that they did not carry flame, and only the portion within the power of the flame was affected by it; there was no difference of importance between the material unwashed and washed once or twenty times. Tests with garments were also made and the results, of which many photographs are given, were no less striking.

[1] *Fire Tests with Textiles.* "Red Books" of the British Fire Prevention Committee, No. 148. Edited by the Executive London, 1910. Published at the Offices of the British Fire Prevention Committee, 1, Waterloo Place, Pall Mall, London, S.W.

[2] BRITISH MEDICAL JOURNAL, July 20th, 1907, p. 150, and April 17th, 1909, p. 982.

A DENTAL FORECAST.

IN a recent issue of *Public Health*, Mr. R. Denison Pedley, President of the School Dentists' Society, states that a search through the papers set at the final examinations of the Conjoint Board of England and London University during the past fifteen years reveals that during the period not a single question bearing upon dental disease has been set. He seems to foresee, however, a time when a very different state of affairs will obtain, medical students being taught from the very first to inquire into the condition of their patients' teeth, and to assess its effect on their general health. Gradually they will realize that, apart from other points of resemblance, the surgeons and physicians of the future equally recognize that the purest air must be tainted when it passes through a mouth loaded with pathogenic bacteria; that every carious tooth is a cup containing its quantum of septic material which, when churned up in mastication, will taint the best of food; and that defective teeth are a constant source of irritation. In the operating department he will note that not only the hands but also the mouths of operators and their assistants are carefully cleansed, and that if he desires to join the white-robed throng around the operating table his mouth likewise must be the object of the same attentions. He will find, in short, that the gospel of cleanliness is a reality, and that so far as are concerned cleanly mouths, it is being preached not alone by specialists in dentistry, but in ordinary textbooks on surgery and medicine. As regards the present, we gather that he attributes a good deal of the existing prevalence of dental decay and dental disease to the widespread use of "patent" or artificial foods. A food commonly put forward by its manufacturers and accepted and prescribed by medical men as a "most nutritious food" is usually one which overlooks the function of mastication and assumes that digestion commences in the stomach and not in the mouth. Indeed, the benefits of exercising the muscular coats of the stomach and intestines are often lost sight of equally, it would seem. Some of the responsibility for this state of affairs he lays on the shoulders both of medical practitioners and the writers of textbooks. As regards the latter, he foresees a philosopher of some future age saying, "Ah! these were evidently written for the guidance of people who had no teeth."

SIR WALTER FOSTER will take the title of Lord Ilkeston of Ilkeston in the county of Derby. In view of his long connexion, extending over nearly a quarter of a century, with the constituency, there is a peculiar appropriateness in the choice of the new peer's title.

WE are glad to be able to report that Dr. Dawson Williams continues to make satisfactory progress. His medical advisers think it likely that he will be able to leave his bed in ten days or a fortnight.

AT the annual meeting of the Southern Branch, held on July 14th at Salisbury, Mr. L. S. Luckham in the chair, it was resolved on the motion of Dr. J. Ward Cousins, of Southsea, seconded by Dr. Willcox, of Warminster:

> "That a vote of sympathy be sent to Dr. Dawson Williams, the Editor of the BRITISH MEDICAL JOURNAL, on account of the injuries he recently sustained in a motor accident, and the best wishes of the meeting for his speedy recovery."

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Midwives (No. 2) Bill.—In moving the second reading of this bill on Tuesday, Earl Beauchamp said that it amended the Act of 1902 on the lines of the report of the Departmental Committee. The first clause in the bill altered the constitution of the Central Midwives Board by adding representatives of the Local Government Board, the Association of Municipal Corporations, the Society of Medical Officers of Health, and the British Medical Association, and the second clause enabled that constitution to be afterwards revised if necessary. Clause 17 dealt with the payment of the fees of medical practitioners called in on the advice of midwives. The difficulty which arose in this matter was due to the absence of secure expectation of payment. In some cases medical men had refused to attend unless their fees were paid beforehand. The evidence taken before the Departmental Committee was conclusive that some intervention by the State was necessary to assure the payment of the fee if it could not be obtained from the patient or her relations, and the Local Government Board had expressed a strong opinion in favour of putting this responsibility on boards of guardians. That particular provision of the bill was subjected to severe criticism in its original form. The present bill contained alterations which he hoped would be a considerable improvement. The payment of fees was not to be considered a ground for any pauper disqualification. He had endeavoured to make the measure as little contentious as possible, avoiding the large issues connected with the subject. In regard to the omission from the bill of any reference to Ireland, he pointed out that this was an amending measure, and as Ireland was not brought within the scope of the Act of 1902 it was not desirable in an amending bill to introduce any new principle or such a great change as the inclusion of Ireland would be. Moreover, a different system of certification was followed in Ireland. If any noble lord would introduce a bill relating specifically to Ireland, the Government would place at his disposal all the information which they had concerning the subject. A discussion followed on the desirability of extending the bill to Ireland, after which the second reading was passed.

Instruction in Hygiene.—Under the ten minutes rule on Tuesday Dr. Addison introduced a bill "to require that in public elementary schools instruction shall be given in hygiene, and to girls in the care and feeding of infants." He said that under the code instruction of this character to senior girls was compulsory, but he believed it would be necessary to undertake extended education on simple lines to all children in the manner provided in the bill if they were to deal adequately with what was the greatest of all the causes of national physical degeneracy. Something like one-third of the waste of child-life was due to improper feeding and ignorance on the part of those who had the care of children. An improvement had been effected since the adoption of the Notification of Births Act, but in the last thirty years, notwithstanding the general decline in the death-rate of adults, there had been an actual increase in the death-rate of children under the age of 12 months. It was necessary to begin this instruction with the girls at school. The instruction was simple, and it might well displace some of the subjects which engaged a good deal of attention in some schools at the present time. It would mean that these girls, when they came to be mothers in the next generation, would at least know that a baby should have no other food artificially than milk. This knowledge, if it were acted upon, would diminish the rate of infant mortality by at least 25 per cent. Leave having been given, the bill was brought up and read a first time.

The Census (Great Britain) Bill.—On the report stage of this bill in the Lords on Tuesday a lively debate arose on the motion of Lord Eversley to omit the words put in to allow a religious census. Lord Newton and Lord Lansdowne, with the Bishop of St. Davids, opposed the motion, which was supported by Lord James and by Lord Beauchamp on behalf of the Government. On a division, the words allowing the religious census were retained by a majority of 3.

Education (Physical Training) Bill.—Viscount Hill, in moving the second reading, said the bill was drawn up by the National Hygiene League, and raised the age for physical training to 16 years, and required the teachers to have a sound knowledge of physical culture. Violent exercise was not aimed at, but proper instruction in standing and breathing—the latter, indeed, was the basis of the whole matter. Lord Meath pointed out that, as a result of a bill of his, which had been incorporated in the Code, physical exercise was taught in many schools. He sympathized with the general purpose of the bill, but regretted the prohibition of the use of warlike weapons. Lord Beauchamp said the bill as it stood was not acceptable to the Government, though he approved of the principle of the bill. The work of physical training in the schools had been only lately reorganized, and remedies in work of this kind could not take effect at once. The first thing was to train teachers, and that work was already in hand. With regard to military training, whatever might be thought of its benefits it certainly ought to be preceded by some system of physical training. He believed that recruits before joining the army were now generally trained by a system of Swedish drill and not with the help of war weapons. The Marquis of Londonderry sympathized with the object of the bill, but physical training alone would not suffice to improve the condition of the unfortunate children who were to be seen in the streets. The children owed their condition in some measure, perhaps, to overcrowding in their homes, to lack of proper nourishment, and to the failure of their parents to grasp the laws of health. It would be a dangerous innovation to make physical training compulsory in all elementary schools by legislative enactment, and to leave all other subjects of instruction at the disposition of the Board of Education by means of the Code. If physical training in continuation schools was made compulsory, there should be a special exemption for boy scouts. Lord Ridley suggested that, in face of the criticisms from both sides of the House, it would be well to postpone the bill and reintroduce it next year with modifications. The Earl of Crewe supported this suggestion, and it was accepted by Lord Hill, and the bill withdrawn.

Spirit Used in Medicine.—Mr. Primrose asked the Chancellor whether he would be willing to allow a drawback of the duty on spirit used by medical practitioners, chemists, and druggists. Mr. Lloyd George replied that he had given sympathetic consideration to this matter, but the practical difficulties were very serious, and he was afraid he could not undertake to grant such a drawback.

Measles and Whooping-Cough in London.—Sir William Collins asked the President of the Local Government Board whether, in view of the large aggregate mortality from measles and whooping-cough in London, he would be prepared to approve of the utilization of such hospitals of the Metropolitan Asylums Board as might not be required for notifiable diseases for the voluntary admission and treatment of children suffering from measles and whooping-cough. Mr. Burns replied that the question of the practicability of utilizing the spare accommodation in the institutions under the control of the managers of the Metropolitan Asylum District for diseases other than those with which they were at present empowered to deal was under consideration, and he understood that a proposal on the subject was coming before the managers at their next meeting. He should not lose sight of the matter.

Workshop Inspection (Ireland).—Mr. Devlin asked the Home Secretary last week whether his attention had been called to a report by the Chief Lady Inspector, in which she alleged that a medical officer of health refused to require the walls and ceiling of a workshop to be limewashed, although it was admitted that no cleaning of this kind had been done for nearly seven years, and stated that the workshop in question was no dirtier than his own consulting room; would he state whose was the workshop, and who the medical officer referred to; and what action had been taken in the matter by the Home Office. Mr. Churchill replied that he was aware of the case referred to in the question. It would not be in accordance with the usual practice in these matters to furnish the names of the occupier or the medical officer, and no useful purpose would, he thought, be served by doing so in the present case. The limewashing of workshops was not required to be done at fixed intervals, as in the case of factories, but the local authority had a discretion to require it when it was considered necessary for the health of the workers, and the Department could only intervene when there had been default on the part of the authority. The question of taking proceedings in this case in default of the local authority was carefully considered; but it was decided that the circumstances were not such as to make this course advisable.

Public Health (Health Visitors) Bill.—On Monday Mr. Burns presented this bill to enable local authorities to appoint health visitors under the Notification of Births Act, 1907. The bill was ordered to be printed and put down for second reading. If it passes the provincial authorities will be able to appoint health visitors as is done in London. The women health visitors will visit the homes of the poor and advise them on the rearing and feeding of infants, with the object of lessening the present excessive infant mortality.

Mr. Cox's Death and the Civil List.—Mr. Bottomley asked the Prime Minister whether he was aware of the death of Mr. H. Cox, after a long period of suffering, as the result of injuries received in the course of his duties in connexion with the application of *x* rays; and whether, having regard to all the circumstances of the case, he would recommend the widow for a Civil List pension? The Prime Minister replied that he was aware of the sad circumstances of Mr. Cox's death. As regards the second part of the question, it was impossible for him to express any opinion until he was furnished in the usual manner with such information as was required in the case of all applications for relief from Civil List funds.

Vivisection Act (Inspections).—In answer to Mr. Douglas Hall, the Home Secretary stated that the number of inspections made under the Vivisection Act in 1909 were as follows:

	Visits.	Experiments Witnessed.	
		Table IV (A).	Table IV (B).
Dr. Thane	135	28	44
Sir J. Russell	154	11	60
	289	39	104

Each place at which experiments were being performed was visited at least once during the year, and the majority of places were visited three, four, or more times. Almost all visits were by surprise.

Antivivisection.—On Monday last Dr. Addison asked the Home Secretary whether, in view of the fact that the operation of spaying two rabbits under an anaes-

thetic by a skilled operator without his licence being in order had been declared a contravention of the Cruelty to Animals Act, 1876, he proposed to take any action in regard to the corresponding operation which was performed in numbers of cases on young pigs and on young male cattle and sheep in this country every year by unqualified persons, and without an anaesthetic. Mr. Churchill replied: No, sir. The operation on the rabbits, being "an experiment calculated to give pain" and performed without the necessary authorization, was a breach of the Cruelty to Animals Act, 1876. The other operations referred to did not come within that Act: and he was advised that there was nothing illegal in them if carried out bona fide for commercial or domestic purposes and without causing unnecessary suffering. He had no evidence that the existing law with regard to them required amendment. Dr. Addison then asked whether the Home Secretary would say if this operation on rabbits performed by skilled operators and without pain to the animal was considered an offence under the Cruelty to Animals Act, why persons were allowed to perform, perfectly untrained, the same operation on other animals without skill and with the infliction of pain. Mr. Churchill said that he did not know that this operation was ever performed on rabbits bona fide for medical purposes. Obviously, an operation of a character that was performed already was one that would come within the scope of the Act. Mr. Gibson Bowles then asked was it prohibited for one class of animals and not for another. Mr. Churchill answered that the law of the country had been framed in order to restrict and regulate operations upon animals for the purposes of scientific investigation, but it had not hitherto restricted the ordinary actions which were taken for commercial purposes in regard to certain animals. Mr. Charles Bathurst then asked whether it was suggested that these operations on young farming animals were conducted by unqualified persons, and that if performed by properly qualified persons they constituted cruelty. Mr. Churchill answered that they did not come within the scope of the Act in his opinion.

Milk and Dairies Bill.—Sir Francis Channing asked the President of the Local Government Board whether, having regard to the fact that no legislation to secure purity of milk was contemplated this session, he proposed to adopt any further administrative steps this year for that object. Mr. Burns said that he regretted that it was not possible to reintroduce the Milk and Dairies Bill this session, and he was afraid that, pending the reintroduction of the bill, administrative action in the direction of preventing the introduction of impurities into milk must necessarily be of limited scope. Certain inquiries had been and were being made by inspectors into other aspects of the matter, such as the addition of preservatives to milk, and when these inquiries were complete he would carefully consider what administrative action could be taken. Pending legislation, it was to be hoped that the local authorities would exercise to the full such powers as they at present possessed.

The Medical Inspection of School Children in the Western Highlands.—In answer to Mr. Weir, on Tuesday week, the Lord Advocate stated that the scheme for the medical inspection of school children which had been formulated by the Secondary Education Committee for Ross-shire, and which had received the Department's approval, provided for the present for the following staff: The medical officer of health for the county, a subordinate medical officer for the mainland section of the county, a second subordinate medical officer for the Island of Lewis.

The Registration of Births, Deaths, and Marriages (Scotland) Amendment Bill was read a second time on Friday in last week. The Lord Advocate explained that the bill simply enabled the Scottish Registrar-General to certify extracts from his books by means of a seal without requiring him to sign his name, just as the Irish and English Registrars-General had been able to do for generations.

Invalidity Insurance.—Last week Mr. Bathurst asked whether the present members of friendly societies would enjoy under the proposed scheme additional benefits commensurate with the amount of their financial interest in their respective societies; and the Chancellor of the Exchequer said that every care would be taken to safeguard the interests of the great friendly societies and of their members, but he could not at the present stage lay before the House the details of the proposed scheme. In answer to a question by Mr. James Hope, the Chancellor of the Exchequer stated that it was estimated that 2,250,000 persons would contribute to the scheme for insurance against unemployment, and about 15,000,000 to the scheme for insurance against sickness, invalidity, etc. He was not yet in a position to state what would be the amount of their contributions.

Indian Medical Service.—Mr. Kelly asked the Under Secretary for India whether the Secretary of State had yet received from the Government of India a report on the medical service of India; whether he was aware of the belief among Indian doctors that the delay was the outcome of the desire and intention of the Indian Government to reserve the higher grades of the medical service to people of this country, without regard to efficiency, expenditure, or justice to the people of India; and what steps did he propose to take to bring the highest posts within reasonably easy reach of all medical men without distinction of nationality. Mr. Montagu replied that the answer to the first part of the question was in the negative; as regards the second part of the question, the Secretary of State found it difficult to imagine that any such belief existed. The Secretary of State could not now formulate proposals.

Use of Anaesthetics (Coroners' Committee Report).—Mr. Marshall Hall asked the Prime Minister whether, having regard to the report of the Coroners' Committee upon the use of anaesthetics and the decision of the Court of Appeal in Bellerby *v.* Heyworth, he would consider the advisability of at once introducing legislation to protect the interests of the public at the hands of unqualified medical and dental practitioners. Mr. Churchill answered that the recommendations of the Coroners' Committee were now under consideration, and he hoped, when time permitted, to propose legislation with regard to them. As regards the question of unqualified practitioners, he understood that, in reply to a circular issued at the instance of the Lord President by the Local Government Boards of England, Scotland, and Ireland, a large body of information had been collected from medical officers of health which would, it was hoped, be published at no distant date as a Parliamentary Paper. When this information was available the Government would be in a better position to consider what action was desirable.

The Shops (No. 2) Bill.—In answer to Mr. Seddon, the Prime Minister said that the second reading of this bill would be taken when the House reassembled after the adjournment.

The Course of Public Business.—According to the Prime Minister's statement of last week, after the Appropriation Bill is read a second time this week, and the Regency and Civil List resolutions passed, next week will be occupied by the report of the Budget resolutions and the third reading of the Appropriation Bill. The Indian Budget will be taken on Tuesday, and the rest of the week will be devoted to the Accession Declaration Bill and the Civil List Bill. If the Government's hopes are realized the House will meet some day early in the first week of August for the adjournment motion and to hear the Royal Assent to the various measures.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

Dental Treatment of London School Children.

At the meeting of the Education Committee of the London County Council on July 20th—within a week of the adjournment of the Council for the summer recess—the Children's Care Subcommittee presented a report on the provision necessary to be made in the metropolis for the dental treatment of school children. The consideration of this question was postponed in May, 1909, for six months, and in November, 1909, for a further six months, but owing to the subcommittee's dilatoriness the second six months will have become almost twelve before the Council can take any definite action.

The report opened by emphasizing the magnitude of the task of dealing satisfactorily with the teeth of three-quarters of a million children, and went on to state that any attempt to arrive at an immediate and complete settlement of the question would be undesirable. Only by accumulating experience of the best methods could any degree of success be secured. The Council would be obliged to learn from its own difficulties, inasmuch as the information available as to what was being done in the great cities of this country and abroad afforded but little guidance so far as London was concerned. The Special Committee which reported in 1908 (British Medical Journal, December, 1908) came to the conclusion that existing accommodation in the hospitals and dispensaries for even simple dental examination and treatment was wholly inadequate. The need for such treatment was generally recognized by all authorities dealing with questions of public health. There was, however, considerable lack of appreciation of the danger to health involved in the neglect of the teeth, and the public would require to be educated in order to ensure that accommodation provided for dental treatment was fully utilized. Unless there was actual suffering the need for treatment was not at present generally recognized.

The basis of the scheme for dental treatment being not merely the relief from pain but the conservation of the teeth with a view to the improvement of the general health, provision should be made for the instruction of teachers, parents, and children in dental hygiene. The subject of the care of the teeth had been introduced in a few schools already by means of toothbrush drill, and clubs and toothbrushes were now added to the requisition lists. Advice on the care of the teeth was included in the pamphlet recently issued dealing in popular language with questions of health (British Medical Journal, July 9th, 1910, p. 101).

Courses of six lectures to teachers on the personal care of the children, with reference to eyes, ears, and teeth, had been arranged; and the subcommittee hoped it would be possible to give dental hygiene a larger place in the curriculum of training colleges, to provide lectures to mothers, and further education on the subject of the school children themselves. Educational methods, however, would be wasted unless at the same time provision was made to enable treatment to be obtained where the need was recognized.

From the experience gained at Cambridge and elsewhere it appeared that the number of salvable carious teeth decreased as the children advanced in age, and that treatment for children in the last year of school life was much more serious and expensive than in earlier years. Some children secured permanent teeth when 5 years of age, while others did not get them until they were 8 years of age or even later. Not more than 3 per cent. of children were without any permanent teeth between 7 and 8 years of age. It seemed that a very serious increase in the number of children with carious permanent teeth took place between 7½ and 8½ years of age. These were important considerations in favour of the provision, in the first instance, for the dental treatment of children between the ages mentioned. The subcommittee proposed that a beginning should be made by providing treatment for these children, accepting the experience of Cambridge that 73 per cent. of children between those ages required attention. Within the prescribed age limit there were about 80,000 in round numbers attending London elementary schools, and apparently 60,000 of them needed treatment.

The subcommittee had been in communication with the British Dental Association as to whether provision for dental treatment could be undertaken by committees formed by local associations of qualified dentists either in premises provided by them as in the case of the committees of local medical practitioners, or in premises provided and equipped by the Council. The reply received was that there were in London only two branches of the British Dental Association, and that it would not be possible, therefore, for this association to undertake dental treatment for the Council. The subcommittee was considering the desirability of arranging for the work to be done by private dentists in their own surgeries. In addition communications were being sent to the governing bodies of hospitals with a view to ascertaining whether special provision could be made for dental treatment at the hospitals. In the meantime two offers had been received, which, if accepted, would enable the Council to obtain experience of two methods of dealing with the problem—at a hospital and at a local dental surgery. The Poplar Hospital for Accidents, East India Dock Road, was willing to provide treatment on terms similar to those agreed with hospitals in respect of other ailments, namely, £50 a year for each dentist working one half-day a week and 2s. for each case. There were three rooms at the hospital which were quite suitable for the purpose and would be available every afternoon. A grant of £60 would be required to equip them. On the basis of present knowledge each dentist could treat ten new cases a half-day. The facilities afforded Poplar would therefore secure treatment for 2,200 children a year, and the cost would be £470 plus the £60 grant. An offer had been made also by a local committee in Deptford, consisting of representatives of Children's Care (School) Committees, which was prepared to provide treatment at a local surgery on two half-days a week, without charge to the parents for the treatment in accordance with the Council's scale. The Deptford committee was willing also to provide treatment on additional half-days if the Council gave a subsidy as in the case of hospitals. Assuming that 3,500 cases a year could be taken, the cost to the Council would be £750 a year.

These two schemes would secure treatment probably for 5,700 children for approximately 4s. a case. On this basis, 60,000 cases would cost £12,000 a year, exclusive of grants for equipment. The subcommittee recommended that advantage be taken of these offers, and that for the present the selection of the children for treatment should be made by the school doctors.

A reorganization of the system of medical inspection in London is in prospect, by which children will be examined at three, instead of two, age-periods, each school to be visited by a doctor not less than once a term. The increased work will make necessary the appointment of two additional full-time assistant medical officers at a salary of £500 a year each, and twenty-eight additional quarter-time assistant school doctors.

LIVERPOOL.

University of Liverpool.

On July 9th a congregation of the University of Liverpool was held at St. George's Hall to confer degrees. In the Medical Faculty ten men received the degree of Doctor of Medicine; seven received the degree of Bachelor of Medicine and Surgery. In the absence of the Chancellor, Lord Derby, the degrees were conferred by the Vice-Chancellor, Dr. Dale. Dr. Dale

spoke of the loss the university had sustained by the death of King Edward, who was Visitor, and of Dr. Campbell Brown, who had been Professor of Chemistry. Dr. Dale also alluded to the retirement of Professor MacCunn. An appeal was made for £8,000 to complete the buildings of the Students' Union, an object of the utmost importance in the life of a non-residential university.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

The medical officer's report to the Education Authority of the City of Liverpool for the year 1909 contains many interesting statements. There are 133,000 children on the rolls of the elementary schools. Of these, 20,876 have been inspected as new admissions or on leaving school, and in addition there were 2,000 special examinations made at the request of teachers. This work, with the inspection and reporting on school premises and other matters, occupies four school medical officers, devoting their whole time to the services of the committee. In their work they have the aid of nineteen female assistant sanitary inspectors, who visit such of the children at their homes as the medical officers consider desirable, and put in force the powers possessed by the Corporation for dealing with verminous children. These sanitary inspectors also record the heights and weights and vision at the dictation of the medical officers, prepare the children for inspection, and re-dress them after it. In addition, four nurses give their whole time during school hours to the committee; these render first aid in cases of minor injuries and sores, and make systematic examination into the cleanliness of the children. The report states that the head and assistant teachers have rendered much valuable and cordial assistance in the work of inspection, even when it has been at their own considerable inconvenience. Parents are invited to attend at the inspection of their children, and in the case of girls 11.6 per cent. of the parents have been present. Unfortunately the parents of the neglected children are just those who do not attend these inspections.

The inspection occupied, on an average, six minutes for each child, and brought out many interesting points. There is a growing tendency to escape vaccination owing to increased facilities to conscientious objectors. The numbers of the unvaccinated children in the Toxteth Union has more than doubled in the last eight or nine years and amounts to over 13 per cent. of the children examined on admission. Rather more than half the children inspected are inadequately clad.

Boys have a great advantage over girls in cleanliness of their heads, owing to short hair, but girls suffer less than boys from ringworm of the scalp, probably owing to the hair protecting the scalps and to the boys using dirty caps promiscuously. The report deplores the lack of possibilities for cleanliness, and suggests that facilities for school baths should be obtained (a suggestion which has long been present to the minds of some); a bath and clean clothes for each child would make school life much more wholesome. Less than 10 per cent. of the children leaving have all their teeth sound, and it is noticed that, generally speaking, the amount of sepsis and number of decayed teeth are in inverse proportion to the cleanliness and better social conditions of the children. Nearly 20 per cent. of the children inspected have enlarged tonsils or adenoids and about 8 per cent. enlarged glands.

About 8 per cent. of the children leaving school have some external eye trouble, and about 8 per cent. have defects in vision in one eye, and 18 per cent. have defects in both eyes, the girls being affected more than the boys, possibly owing to sewing. The report states that in the matter of treatment of the defects probably 90 per cent. of the children who get treatment for eye trouble obtain it at one or other of the eye hospitals, and a very similar tale is told as to throat troubles; the majority have gone to one or other of the hospitals, very frequently at the suggestion of their usual medical attendant. The majority of those treated for dental troubles have gone to the Dental Hospital or one of the dispensaries. The report points out that ringworm is a cause of loss of time among the children, many cases taking very long periods to cure; it seems there is only one expeditious method of getting rid of the disease, and that is by *x*-ray treatment.

BIRMINGHAM.

THE HEALTH OF THE CITY.

In the report of the Health Committee for the six months ending June 30th it is stated that the general health of the city has been exceptionally good. The birth-rate has continued to decline, having been only 27.0, as compared with 31.1, the mean rate in the ten preceding years. The general death-rate was 14.3 per 1,000, as compared with 17.7 for the same period last year, while the average death-rate during the first six months of the previous ten years was 18.4. The death-rate of 14.3 per 1,000 is the lowest ever recorded in the first half of the year.

The deaths from infectious diseases were as follows:

	1910.	Average 1900-09.
Small-pox	0	1
Measles	3	164
Scarlet fever	48	52
Diphtheria	34	51
Whooping-cough	181	173
Typhoid fever	7	33
Diarrhoea	33	64

The number of cases notified under the Infectious Diseases (Notification) Act was as follows:

	1910.	Average 1900-09.
Small-pox	0	30
Scarlet fever	1,259	1,115
Diphtheria	302	351
Typhoid fever	31	160
Puerperal fever	10	15
Erysipelas	271	302

HOSPITAL SATURDAY FUND.

The result of this annual collection to date is £19,428, as compared with £18,889 on the corresponding date last year, being an increase of £539. The contributors numbered 2,027, as compared with 2,013 last year. The increase in the number of contributors is expected to be maintained, and, as the average contribution showed an increase of 4s. over the average contribution this time last year, there is every indication that the £20,000 will be exceeded by £200 or £300. Of the collection, £10,000 is divided annually among the hospitals and nursing societies, while the subscribers provide with the remainder convalescent home treatment for such of their numbers as are in need of it. The number of patients admitted to the fund's convalescent homes during the half-year ending June 30th was 1,583, as against 1,374 last year. This is an increase of 209, and is the largest number ever recorded during the first half of the year. The numbers were distributed as follows: At the Tyn-y-Coed men's home, 645 patients; at the Marle Hall women's home, 671 patients; at the Red House children's home, 267 patients.

The work which has been receiving the most serious attention of the committee has been the treatment of patients suffering from phthisis. A project which has been before the committee for a considerable time has been to obtain means to acquire a home of their own, and that it should be established as a memorial to the late Sir William Cook, who was for so many years the Chairman of the Hospital Saturday Fund. A site has now been chosen on the borders of Great Farley Wood, on Romsley Hill, which is situated between the Lickey Hills and Clent Hills, at a point about ten miles distant from the city. The site is from 700 ft. to 800 ft. above the sea level, facing south, commanding very beautiful views, and is suitable in every way for the purpose. It has also been arranged that twenty-five acres of land can be acquired. The owner of the site, who prefers to remain anonymous, has offered it as a gift to the fund, and this is

equivalent to a presentation of £1,250. A subcommittee has already been appointed to go into the question of plans (which will include the provision of fifty beds), with the view of bringing a full scheme before the committee at the earliest possible date. A fresh appeal will be issued, and in the meantime a fair start has been made with regard to funds, for, including private donations, paid or promised, contributions received from the workshops and the gift of the land, about £5,000, out of the £12,000 which will eventually be required, has been provided.

MEDICAL INSPECTION OF DUDLEY SCHOOL CHILDREN.

The school medical officer for the borough of Dudley (Dr. J. H. Wilkinson), in his annual report, states that the total number of children examined during last year was 1,789—namely, 884 boys and 905 girls. About 10.8 per cent. of the children examined had four or more defective teeth, but this probably does not represent the actual percentage. Only 37 children were discovered with some morbid condition of the lungs, as compared with 51 in the previous year. Most of these children were under treatment. A serious outbreak of typhoid fever occurred in the autumn, the disease being introduced into the town about the middle of October by persons who had been hop picking. Both diphtheria and typhoid had been previously introduced by the hop pickers. The medical officer points out that until there is some assurance of proper sanitary supervision at the hopyards the present policy of the Education Committee of closing the schools in September and October, in order to allow as many children as possible to attend the hop-picking, must be considered as a dangerous error. With regard to dirty and verminous children, the percentage was 11.9 as compared with 14.6 for the previous year. Mr. B. H. St. Clair Roberts, ophthalmic surgeon, reports that 33 of the children had conditions of the eye requiring operation, and that 151 received prescriptions for spectacles. In his report he considers it regrettable that the resources of the Eye Infirmary, which were, unfortunately limited, should have been called upon to supply the necessitous cases with spectacles. He suggests the establishment of a voluntary fund for the provision of spectacles in cases where parents are unable to buy them. The school nurse, Miss Gunning, reports having made 394 visits to schools and 1,445 to the homes of scholars, and sending 64 circulars to parents concerning the cleanliness of their children, which is a great decrease on the previous year.

MANCHESTER AND DISTRICT.

INFANT BIRTH AND DEATH-RATES IN SALFORD.

THE position of Salford with regard to infant mortality is still far from enviable, though there has been a considerable improvement during the last year. The medical officer of health, Dr. Tattersall, estimates the population of the borough in the middle of 1909 at 241,950, the excess of births over deaths being 2,409. The marriage and birth-rates are the lowest on record for the borough, the marriage-rate being 14.8 and the birth-rate 28 per 1,000. There were 6,778 births registered during the year, of which 244, that is 3.6 per cent., were illegitimate. In spite of a reduction in the birth-rate of 1.5 per 1,000, Salford is still above the average of the seventy-six large towns, which have a birth-rate of 25.7. The Notification of Births Act has not been adopted, "owing largely," as the report says, "to the feeling of opposition by medical practitioners who object to being made responsible for notification and yet receiving no payment." Enquiries from the registrars at cemeteries show that 261 stillborn children have been buried, of which midwives notified 139. There are 51 midwives practising in the borough, and of the 6,778 births, 4,905 or 72.4 per cent., were attended by midwives and 1.873, or 27.6 per cent., by medical practitioners. Of 26 cases of puerperal fever notified during the year, 10 were in the practice of midwives. In two of these cases ex-midwives were concerned, one whose name had been removed from the Midwives' Roll. They were brought before the magistrates and each was fined 21s. and costs. Medical practitioners were called in to the assistance of midwives in 515 cases, and as the Midwives Supervising Committee has refused to be responsible for medical fees in these cases, and the guardians impose almost impossible conditions, there is no doubt that in many cases the medical men have had the greatest difficulty in obtaining payment for their services.

Some interesting statistics are given showing to what a great extent infant mortality depends on the feeding during the first six months of life. The health visitors, who are partly paid by the Ladies' Public Health Society and partly by the Corporation, have had under observation 3,526 infants born in 1908, and the infant mortality among these was 153.7 per cent. Of the total, no less than 2,880 were fed entirely on the breast for the first six months with a mortality of 113.9 per 1,000, and the following table shows the mortality among the remainder:

	Mortality per 1,000.
Breast and other food from birth	285.7
Breast one month and other food five months ...	300.0
Breast two months and other food four months ...	285.7
Breast three months and other food three months	250.0
Breast four months and other food two months ...	150.0
Breast five months and other food one month ...	125.0
Breast alone for the first six months	113.9
Other food entirely for the first six months ...	314.9

The contrast between the last two figures is most noteworthy, as is also the definite rise in the mortality the earlier other food than the breast is given. The principal causes of infant deaths were: Lung disease, 32 per 1,000; debility and atrophy, 28.6; diarrhoea, 24.3; premature birth, 15; tuberculous disease, 7.9; convulsions, 6.8; measles 5.3; and other causes, 33.8; giving a total of 153.7 for infants born in 1908. During the year 1909 there were 959 deaths of infants, which is a death-rate of 141 per 1,000—a great improvement on the previous year and considerably under the average of the previous five years, which was 159 per 1,000. The decrease was greatest for deaths from zymotic diseases and from atrophy and debility; while there was an increased mortality from bronchitis and pneumonia. Compared with the thirty-three great towns, Salford is twenty-ninth on the list, the only four having a higher rate being Swansea 159, Liverpool 144, Nottingham 150, and Burnley 157. In Manchester the infant mortality was 134, and thus both Manchester and Salford compare very badly with the five towns which are lowest on the list—namely, Croydon 80, Huddersfield and Portsmouth 95, and Brighton and Halifax 97.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

DUBLIN DEATH-RATE.

AT a recent meeting of the Public Health Committee of the Dublin Corporation the Secretary drew attention to the satisfactory decrease in the death-rate during the first half of this year. During the past month especially the decrease was most striking, and was at one period 5.2 below the mean rate for the past ten years. The committee attribute the change to the new main drainage scheme, and to the improved and more expeditious methods of removal of house refuse and of cleansing. Of late years also disinfection of premises after removal of infectious cases has been more prompt and efficient, and it is likely that the clearing out of insanitary areas—a work which is still being pushed on in various parts of the city—is now beginning to have some effect in improving the general health of the more congested districts.

PRESENTATION TO DR. GOFF.

Dr. Stevens Goff of Dundrum was presented last week by a number of his patients and friends with a handsome silver bowl and a cheque for £250. Over

200 of the residents in the district attended the function, which was presided over by the Rev. W. M. Gibbon. Dr. Gibbon, in his introductory remarks, expressed the high esteem in which Dr. Goff was held by his friends and acquaintances, and referred to the obligations which were owed by the public to the medical profession and to the services rendered by it to the poor of the community.

PRESENTATION TO SIR G. P. O'FARRELL.

In the Privy Council Chamber, Dublin Castle, Sir George P. O'Farrell, M.D., was made last week the recipient of a handsome presentation on his retirement from the post of inspector of lunatic asylums. The presentation consisted of a handsome eighteenth century Sheraton table, and of silver ornaments, and was made by his co-workers as a mark of their appreciation of his efficiency and humanity as a lunacy administrator. The list of subscribers included the Lord Chancellor, the ex-Chancellor (Lord Ashbourne), Lord Rathmore, Lord Killanin, Mr. J. H. Campbell, the President of the Royal College of Surgeons, and many others. The Lord Chancellor, who presided, referred to the great changes for the better that had been effected during the past twenty years in the care and treatment of lunatics, and said that these improvements in Ireland had been largely brought about by the efforts of Sir George O'Farrell and his colleague, Dr. Courtenay.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

SCOTTISH BOARD OF LUNACY: RETIREMENT OF DR. JOHN FRASER.

ALL interested in the care of the insane in Scotland will hear with regret of the retirement under the age limit, after a service of thirty-two years, of Dr. John Fraser, Commissioner in Lunacy. Dr. Fraser, after a distinguished University career at Edinburgh, took the degree of M.B., C.M. in 1870. He soon afterwards became Assistant Medical Officer in the Fife and Kinross District Asylum, and in 1873, on the retirement of Dr. (now Sir John) Batty Tuke from that asylum he succeeded him as Medical Superintendent. In 1877 he received the appointment of Deputy Commissioner in Lunacy in succession to Dr. George A. Paterson. His duties as Deputy Commissioner were mainly concerned with the insane under private care, and into this work he entered with heart and soul, and with a determination to develop and perfect yet more the system of which Sir Arthur Mitchell, the first Deputy Commissioner attached to the Board, had been the founder and apostle. The energy and enthusiasm which Dr. Fraser brought to bear upon this work could not fail to be without effect. He gained the entire confidence and respect of inspectors of poor and other parochial officials, and animated many of them with his convictions as to the advantages of the system both to the ratepayer and as a measure of justice to the many insane who under slight supervision are capable of enjoying the liberties and pleasures of a natural home life. The inculcation of these views led to the removal to private care of many unrecovered patients who, but for his efforts, would have remained indefinitely as inmates of asylums, and in this way the congestion of asylums was relieved, and the necessity for enlargement in many cases averted. He became a Commissioner on the retirement of Sir Arthur Mitchell in 1894, and in his new capacity he soon gained the entire confidence and esteem of medical superintendents and others connected with asylums. He was regarded by them less as an official critic than as a friendly and outspoken adviser whose great experience and knowledge was always at their service, who listened with sympathetic interest to all their difficulties, and who was ever ready to do all in his power to assist them both with kindly counsel and active support whenever that could properly be given. There was no method of treatment of recognized merit which did not receive his warm approval and which he did not do his utmost to teach and spread, and he thus became a very real and active force in promoting the most advanced views of what is regarded as best in the care and treatment of the insane. In the performance of his duties he spared himself no labour, and the country has lost in him an able, zealous, and faithful public servant. His retirement will be greatly regretted by all with whom he came officially in contact, and his numerous friends everywhere will wish him a long and happy life now that the cares of office have been laid aside.

MEDICAL COMMISSIONER IN LUNACY FOR SCOTLAND.

The King has been pleased, on the recommendation of the Secretary for Scotland, to approve the appointment of Dr. Hamilton Clelland Marr as Medical Commissioner in Lunacy for Scotland in place of Dr. John Fraser, who has retired on attaining the age limit. Dr. Marr graduated M.B., C.M. at Glasgow University in 1892, and three years later took his M.D. degree. He went to Woodilee Asylum as an Assistant, subsequently became Assistant at the Crichton Institution at Dumfries. A few years later he returned to Woodilee as Senior Assistant, and in December, 1901, he became Medical Superintendent of that asylum, which is under the control of the Glasgow Parish Council. At the last report there were 1,034 patients in the asylum, which is recognized as one of the foremost institutions of the kind in the country. Dr. Marr has for some years acted as Secretary to the Scottish Division of the Medico-Psychological Society of Great Britain.

MEDICAL INSPECTION OF EDINBURGH SCHOOL CHILDREN.

In a report by Dr. James for session 1909–10 on the Edinburgh Merchant Company Schools, a number of interesting facts are mentioned. In regard to 736 girls attending the Edinburgh Ladies' College, it was found that "affections of the throat were as usual very frequent, being present in 254 cases. Enlargement of the tonsils was present in 226 cases in varying degree; in 28 adenoids were probably present in addition. The cervical and submaxillary glands were found to be enlarged in 48 cases. Again, as a rule, the enlargement was only slight, but probably due to the condition of the throat or teeth. Including even slight errors, abnormalities of vision were found in 191 cases (24.5 per cent.). With the exception of 5, all of these were due to errors of refraction. Abnormalities of hearing are very much less frequent, being present in only 39 cases (4.9 per cent.). True deformities were almost entirely absent; postural deformities and defects of attitude were, however, only too common, as has always been the case. Practically all these defects were due to faulty habits of standing or sitting at work, and so permit of remedy by suitable exercises and the abandonment of the habit. A forward stoop with flattening of the chest, projection of the scapulae, was found in 149 cases. All these faults of attitude were more prevalent in the girls from 10 to 15 years of age, the younger children and the older girls being comparatively exempt."

In the case of the boys, of 429 in one school 3 per cent. were classed as showing distinct abnormalities, and of 982 in another school 2 per cent. were so classed.

"As regards the practical value of the information derived from these medical inspections in the health and educational aspects . . . it was obvious in the great majority of cases any defects reported had been already known to the family. It will further be obvious that with the family doctor being the examiner, any defects not previously known will have been at once brought before the notice of the parents or guardians. As regards the value of these inspections from the scientific point of view, there is no doubt that from them in time much valuable information as regards growth and development may be obtained."

UNIVERSITY OF EDINBURGH: CAMERON PRIZE LECTURE.

Professor Bier of Berlin gave the Cameron Prize Lecture on Local Anaesthesia with Special Reference

to Venous Anaesthesia in the Theatre of the Anatomical Department of the University of Edinburgh on Wednesday, July 20th, at 4 o'clock.

EDINBURGH ROYAL INFIRMARY.

The managers have agreed to continue Dr. George Mackay, Senior Ophthalmic Surgeon, in office for an extra period of two and a half years as from September next, when he will have completed fifteen years' service as a full surgeon in his department. Dr. W. G. Sym, Junior Ophthalmic Surgeon, has been reappointed for a second period of five years as from the same date.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

The sixty-ninth annual meeting of this association will be held on Thursday and Friday, July 21st and 22nd, 1910, at Edinburgh, under the presidency of Dr. John Macpherson, the Senior Commissioner in Lunacy.

MENTAL OBSERVATION WARDS, GLASGOW EASTERN DISTRICT HOSPITAL.

The half-yearly report of the Glasgow Parish Council contains, among other medical reports, an account of the work done in the mental observation wards of the Duke Street Hospital. It will be remembered that the Glasgow Parish Council was the pioneer in this movement to establish observation wards for acute mental cases which are likely to recover or require more individual attention than is possible in an asylum. The mental observation wards have been very successful in minimizing the number of new admissions going on to the permanent lunacy list; and Glasgow's example has now been followed by Edinburgh, while London is considering a somewhat similar scheme. The working of the observation system is well shown by the last six months' report to the Glasgow Parish Council. Of 383 cases under treatment, 120 recovered, 53 improved, and only 125 were sent to asylums; 10 cases were boarded out and 29 died.

APPOINTMENT OF MEDICAL OFFICER FOR THE COUNTY OF FIFE.

The County Council of Fife has appointed Hugh A. McEwan, M.B., Ch.B.Glasg., D.H.P.Lond. and Camb., Assistant Medical Officer of Health for the County of Cumberland, to be Medical Officer for the County of Fife, in succession to Dr. T. F. Dewar, who has received an appointment on the Local Government Board. The salary is £611.

Sydney.

[*FROM OUR SPECIAL CORRESPONDENT.*]

DEATH OF DR. JOHN GIBSON.

DR. JOHN GIBSON, who practised at Windsor, New South Wales, for the past twenty-two years, died from chronic Bright's disease and uraemia off the coast of New Guinea during a cruise for the benefit of his health on May 5th. He was in his 54th year. He was born in the Orkney Islands on November 17th, 1857. He entered the University of Edinburgh, where he studied for two years in the Faculty of Arts. He then proceeded to the study of medicine, and after a distinguished career graduated M.B., C.M., in 1879. He at once proceeded to Evie, in the Orkney Islands, where he engaged in private practice. He was there appointed medical officer to the parochial board of the parish of Ronsay and Egilshay. After six and a-half years' residence there he resigned his position and returned to the University of Edinburgh, where he entered on special studies in pathology and bacteriology. There Professor Greenfield secured his assistance in carrying on some original researches on behalf of the Fishery Board of Scotland. For two years he held the position of second assistant in the pathological department, under Professor Greenfield, and during that time he prosecuted some researches on waxy and hyaline degeneration, and for his thesis on this subject he received a gold medal on graduating M.D., 1887. He came to Sydney in 1888, and was appointed acting house-surgeon at the Prince Alfred Hospital, Sydney. This position he resigned after three months to take up private practice at Windsor, where he resided for the rest of his life. At Windsor he was appointed honorary medical officer to the Hawkesbury Benevolent Asylum and Hospital, and also Government medical officer for the Windsor district; both these appointments he held at the time of his death. For some years after he went to Windsor he did a good deal of pathological work, especially microscopic examinations of specimens of cancer and tuberculosis in cattle for the New South Wales Government. At the Intercolonial Medical Congress in Sydney, in 1892, he read a paper on certain "worm nests" or "worm knots" occurring in the cellular tissue of the brisket of cattle. The "worm nests" contained parasitic worms and filaria ova; these filaria have subsequently been named *Filaria gibsoni*. In 1897 he was appointed medical officer to the Hawkesbury Agricultural College, a position which he held up to the time of his death. He laboured hard on behalf of the Hawkesbury Benevolent Asylum and Hospital, but he did not live to see the completion of the new buildings, for the erection of which he helped very largely to secure the necessary funds. The committee and subscribers of the Benevolent Asylum and Hospital, in recognition of his distinguished services, elected him President in 1909.

FRIENDLY SOCIETIES IN NEW SOUTH WALES.

The twenty-first annual report of the Friendly Societies' Association of New South Wales states that the membership of the friendly societies at the end of the year 1908 was 123,297, an increase of 6,312 on that at the end of the previous year. The amount of funds was £1,258,023, an increase of £86,680 during the twelve months. During 1908 there were 21,869 persons sick for an aggregate term of 127,807 weeks, at a total cost in sick pay of £100,252. The total male members exposed to risk for sick pay numbered 95,050; consequently, 22.2 per cent. of members entitled to sick benefits became claimants, or, in other words, about 2 in every 9 of the members were relieved, the average period of sickness being 5.9 weeks, during which sick pay amounting to £4 13s. 2d. per case was received, equivalent to 15s. 11d. per week of illness. The Council of the New South Wales Branch of the British Medical Association was asked to meet a special committee from the association with a view to endeavouring to remove the necessity of the inclusion of the wage-limit clause in the proposed agreement issued by that body, but a reply was received stating:

> The question of establishing an income limit for members of friendly societies entitled to medical benefits having been settled, and the limit itself fixed by the Australasian Medical Congress held in Melbourne in 1908, and also by a unanimous vote of the New South Wales Branch at a general meeting, the Council considers that it is no longer in its power to consent to the income-limit clause not being included in the agreement referred to. The Council is of the opinion, therefore, that a conference having the object specified by you in your letter must necessarily be unavailing.

On receipt of this letter the special committee held a meeting, and it was unanimously decided to recommend to the association:

> That a Friendly Societies Medical Institute be formed for the whole State of New South Wales.

This was endorsed by the association, and the special committee was instructed to draft a scheme. This committee held a number of meetings, and unanimously agreed to it; and, in accordance with the decision arrived at, the scheme has been forwarded to the executive of each society, requesting them to place the matter before their delegates at their respective annual sessions, and to notify the result of such consideration to the association as early as possible.

INVITATION TO THE BRITISH ASSOCIATION TO AUSTRALIA.

A deputation representing the scientific societies in Australia waited on the Prime Minister, Mr. Fisher, to ask that a grant of £10,000 might be made by the Government towards the expenses connected with an invitation to the British Association for the Advancement of Science to hold the next meeting about 1913 in Australia. The deputation, consisting of Professor Masson, Professor Spencer, and Dr. McFarland, informed Mr. Fisher that they had waited on the previous Prime Minister, Mr. Deakin, some months ago, and that he had promised to place the proposal before his colleagues with his strongest personal approval. Mr. Fisher subsequently informed the deputation that he was in entire agreement with the proposal, and thought that from every point of view the holding of the meeting in Australia would be a great benefit to the Commonwealth, and that it would be well worth the money. He promised to place the request before his colleagues, and if they agreed he would bring the proposal before the Federal Parliament so that the invitation might reach Sheffield before August next.

PORTRAIT OF PROFESSOR LIVERSIDGE.

When Professor Liversidge resigned the Chair of Chemistry in the University of Sydney and left Australia to take up his residence in England, a number of his friends subscribed for a portrait to be presented to the university. The portrait has been painted by the Hon. John Collier, and has now been placed in the great hall of the university. Recently the subscribers met the Chancellor in the great hall for the purpose of handing over the portrait to the university. Professor David and Mr. J. H. Maiden referred to Professor Liversidge's devotion to the cause of science, his great interest in the Royal Society, and in the Australasian Association for the Advancement of Science, of which he was the founder, his services to the community as a member of the Technical Education Board, and in other capacities. The Chancellor, Sir Normand MacLaurin, accepted the portrait on behalf of the university.

Correspondence.

"THE FUTURE OF THE ASSOCIATION."

SIR,—At first I thought it scarcely worth while to correct so palpable a misstatement as that in the letter of Mr. Pye-Smith in the JOURNAL of July 16th, p. 170. But I do not like any one to suppose I could have asserted that "the new regulations in no way alter the situation." That these changes do affect the taking a Referendum is obvious.

What I did say, however, had nothing to do with "the balance of power," and is correctly reported in the JOURNAL of July 2nd, as follows:

> Was it necessary once more to say that the position of the Association for getting such things as a postal vote or obtaining a Referendum by postal means was exactly the same whether this resolution was passed or not?

In the future, as now, it will be necessary, in pressing for any such change, to convince the Representative Meeting. This can be done by returning Representatives pledged to the change.

I was wrong in saying the position with regard to postal votes was not altered.

One postal vote would by the new regulations be legal in the United Kingdom, which is at present only legal for constituencies formed outside the said area.

I mean that the election of Representatives could in all cases be done (if the constituency so decide) by voting papers. So that, in fact, this change is one on the lines favoured by Mr. Pye-Smith and his friends.

I may casually add that the removal of all laws governing the election of Representatives from the Articles to the By-laws is also a point in favour of the same party. All these remarks deal with very simple matters, but I find that no matter is so simple that it cannot be missed.

The pith of Mr. Pye-Smith's letter is to be found in the first paragraph, where I read:

> The decrease in the powers retained by the individual members of the Association which is steadily taking place . . . is one of the great dangers which some of us consider to be threatening the very existence of the Association, and the chief reason why so much importance is attached by us to an effective postal referendum.

My memory, Sir, goes back to the time when the government of the Association practically rested with the Council, to the exclusion of the "individual member."

It was thought by some that this also "threatened the very existence of the Association." At any rate, there was a very full and very vigorous gathering at Exeter Hall which altered many things.

I am not going to argue whether this was a wise step or the reverse, whether danger was averted thereby, or other and greater dangers raised. For my own part I have nothing to regret, nothing to fear. But if Mr. Pye Smith hopes to put back the clock to the other side of that meeting, I think he sighs in vain.

He may believe that the vote at the Freemasons' Hall does not fairly represent the feeling of the Association at large; if so, let him and those who think with him bestir themselves.

Exeter Hall may teach him that a real and strong cause need fear no failure. On a celebrated occasion the crowd shouted "Great is Diana of the Ephesians!" for a considerable time, till it was reasonably pointed out that the constitutional mode of seeking redress was open to the malcontents, and more effective than shouting. Let those who feel sore and sceptical as to that 200 to 5 vote cease crying "Great is the individual member," and set the existing machinery to work. It will record any real life in the alleged grievance.—I am, etc.,

Bath, July 16th. T. JENNER VERRALL.

SANATORIUM TREATMENT OF TUBERCULOSIS.

SIR,—Without attempting in any way to express an opinion upon the particular points at issue between Professor Pearson and Drs. Latham and Garland, may I be allowed to say a few words generally upon the sanatorium question, in order to put the case fairly from the standpoint of an unbiassed observer, which I think I may fairly claim to be, having given up practice twenty years ago, having no financial interests at stake, and only being desirous of doing the best thing possible for the consumptives of this country? During the years 1882 to 1890 I had the opportunity, in a large suburban general practice, of coming into touch with dozens of phthisical patients, most of whom I knew well, and whose progress there was no difficulty in following up. I regret that I have not a complete record of all the cases, but I have a very vivid recollection of what happened to the majority of them. I never omitted to examine the sputum microscopically, when Koch's discovery of the bacillus made this possible. The conclusion at which I arrived in those days was that, given the presence of bacilli in appreciable numbers, there was but a very slender chance of recovery. The course of such cases amply justified that conclusion. I think it was the recollection of this highly unsatisfactory state of things which made me welcome the first announcement of "open-air" methods in this country, and anxious to join with Dr. W. R. Parker, of Kendal, in the establishment of a sanatorium for the consumptive poor of the county of Westmorland.

We opened our sanatorium early in 1900, near Grange-over-Sands, upon a modest scale, with accommodation for 16 patients. It is now a thriving institution with 60 beds, and we are just about to open another building for 25 "advanced cases."

About three-fourths of our sanatorium patients are now from outside the county (North of England and South of Scotland), and it has not been found possible to follow up the progress of these patients after discharge. We still adhere, however, to the rule originally adopted of keeping

in close touch with our own Westmorland patients, and at the close of each year our secretary, Dr. Parker, finds out exactly what is the state of health and capacity for work of every patient who has been with us since the institution was opened in 1900. This is not very difficult, as the members of our committee, representing all parts of the county, are able to provide the desired information.

It may here be stated that any sanatorium which does not report progress of cases for some years after discharge is guilty of a serious omission, and naturally lays itself open to grave criticism.

In speaking of results, I may say that we have given up tabulating the very advanced cases which have occasionally been admitted, a fatal termination being almost invariable; also any cases complicated by some other serious complaint—for example, heart disease.

The results are as follows: Of 75 "early cases" (slight amount of disease, Class A), 90 per cent. are in excellent health, and have been doing well through the whole period since the institution was opened, and there has only been one death during the ten years. I am aware that the usual objection may be advanced, namely, that probably many of these cases were not consumptive at all, and would have recovered without "open-air" treatment. I am ready to admit that of a small percentage this may be true, and also that bacilli are not to be found in these "early cases"; but I would ask, who expects to find them, seeing that in many instances they only find their way into the air cells, and appear in the sputum, when considerable damage has been done in the lung? Besides, surely it is wiser to commence an approved treatment when there are highly suspicious symptoms and physical signs of the disease (even if the diagnosis be not absolutely certain), than to wait for a destructive stage, the recovery from which may be far more tedious and uncertain.

However, as a concession to our opponents, let us for the moment ignore these cases, and confine our attention to Class B in our report—that is, "severe cases." About two-thirds of these correspond with the second group as suggested in the Local Government Board classification, the remaining third being of the third group. Bacilli were found in most of these cases. The subjoined table is a condensed form of our statement issued in January, 1910, except for the omission of the 1909 patients, which are purposely excluded as being too recent. It therefore covers a period of nine years, and the total number dealt with is 111. The patients are grouped under four headings—namely, "quite well," "fair," "frail," and "dead," according to their condition at the close of 1909. It will thus be seen that when our last report was issued (January, 1910) there were 7 patients alive and well treated nine years ago, 8 patients treated eight years ago, and so on, until we arrive at a total of 73 at the close of 1908, who are now quite well, unless there has been any death during the last few months. The succeeding columns show that 12 are in "fair" health, 4 "frail," whilst there have been 22 deaths, a percentage of 20 (22 out of 111); those "quite well" number 65 per cent., "fair and frail" taken together about 15 per cent.

CLASS B.—"*Severe Cases*," *Corresponding with the Second and Third Groups in the Local Government Board Classification. Number of Patients (111) and their Condition at the close of 1909.*

Year of Treatment, with Number of Years that have since elapsed.	Quite Well.	Fair.	Frail.	Dead.
1900 (9 years ago) ...	7	1	1	3
1901 (8 years ago) ...	8	—	—	6
1902 (7 years ago) ...	7	—	—	7
1903 (6 years ago) ...	5	—	—	1
1904 (5 years ago) ...	8	1	—	1
1905 (4 years ago) ...	7	4	—	—
1906 (3 years ago) ...	6	2	—	1
1907 (2 years ago) ...	10	2	1	3
1908 (1 year ago)	15	2	2	—
Total	73 (T.B. in 37)	12 (T.B. in 6)	4 (T.B. in 4)	22 (T.B. in 18)

If we exclude the last four years, as being somewhat recent, and confine ourselves to those who were under treatment *five years or more ago*, we still get a total of 35, out of 56, recorded as "quite well," namely, a percentage of 62 cases which may reasonably be described as "recoveries," since the best available evidence records them as quite well at a period varying from five to nine and a half years after their treatment in the sanatorium. I ought to mention that the words "quite well" include the capacity for regular work, and these patients have for the most part either returned to their usual trades or been put to some employment believed to be more suitable for them. I am aware that these numbers are not very large, but if we had 1,000 cases to present, there is no reason why there should not be precisely the same result.

I do not know what the experience of others may have been under the old system of twenty-five or thirty years ago; but if those who speak disparagingly of sanatorium treatment can assure me on good evidence that they obtained anything like such good results from the old methods as are indicated in the above table, I should be very pleased to know how it was done. I can honestly say that nothing in the whole range of medical practice has impressed me so much as the contrast between the impotent, not to say injurious, treatment of consumptives in the old days, and the hopeful and satisfactory results of the present "open-air" methods wisely carried out.—I am, etc.,

WM. S. PAGET-TOMLINSON, M.D Lond.,
Honorary Treasurer, Westmorland Sanatorium for Consumption.

Kirkby Lonsdale, July 13th.

SIR,—With reference to Dr. Latham and Mr. Garland's recent book on the *Conquest of Consumption*, might I as one more or less an "outsider," offer a few criticisms?

In my student days the whole tendency of the teaching on tuberculosis was that the seed was everything, the inherited soil hardly counted. When I went out into practice, however, I got rather a shock to find (and I expect a similar experience has fallen to the lot of most young medical men) that my consumptive patients and the families to which they belonged were not, either physically or mentally, average samples of the community from which they were drawn. My experience had been so contrary to my teaching, that often in discussing things medical with my fellow practitioners I have asked the question, Do you think the tendency to tuberculosis inherited? I have never once received a reply in the negative.

It is very doubtful if the idea that the tendency to tuberculosis was not inherited would ever have arisen had it not been evolved originally by a class of men who were enthusiasts, and who, however accurate their knowledge of the tubercle bacillus, had little or no knowledge of "man." They were practically in the position of the mathematician dealing with medical subjects; they required the guidance of the general practitioner, the man with the all-round knowledge of medicine, and, what is very important, the man with a "family" knowledge of medicine, to avoid coming to erroneous conclusions.

Tuberculosis, insanity, idiocy, etc., have all been shown to have an excessive incidence on the "elder"-born members of a family. Further, in the case of idiocy, the parents tend to show the same distribution in the family—that is, they tend to be "elder"-born members. But when one comes to work out the distribution of tuberculosis in the parental generation (in the case of the idiot) one finds that there is a distinct "cutting out" on the elder-born members. In other words, many an imbecile owes his existence to the fact that his parents failed to die of tuberculosis. Now, this may seem an unkind thing to say, but in Nature there is neither kindness or unkindness. Nature is "intellectual, not moral."

Again, as regards insanity, the authors themselves estimate that, roughly, one in every eight consumptives is likewise insane. This tendency to consumption among the insane they explain by the lowered resistance of the soil during the attack of insanity. This may be so, but it is certainly not the whole story. While, during the last fifty or sixty years, the death rate from tuberculosis has steadily diminished, we are, on the other hand, faced with a very ugly rise in our insane rate. Since the insane show such

a marked tendency to tuberculosis, it is not improbable that the diminishing death-rate from tuberculosis has played a considerable part in the increase of insanity.

Let us take the case of the idiot. The death-rate among idiots is about ten times that of the normal population at the same age. Further, of deaths of idiots about 80 per cent. are due to tuberculosis. Now an idiot has not even the resisting power necessary to die of phthisis. He dies of acute tuberculosis, death taking place in from three to six weeks from the onset of the illness. Surely here there is some inherited lowering of the soil. There are some 150,000 (estimated) of these defectives in England and Wales, and for every "defective" there are from six to a dozen of his relatives only a shade better than himself. Practically the same holds for insanity, yet we are asked to believe that a man cannot inherit a soil which will remain during his lifetime permanently below the average in resisting power. The question does not require any great statistical knowledge. It is one simply of common sense.

It would be a fair inference by a layman, after having read *The Conquest of Consumption*, that there could be no reasonable objection to a man marrying into a family in which tuberculosis abounded, provided there had been no recent opportunity for infection. If the authors really mean this, then the teaching ought to receive the whole-hearted condemnation of the profession. Until we have some restriction on the marriage of undesirables the elimination of the tubercle bacillus is not worth aiming at. It forms a rough but on the whole a very serviceable check on the survival and propagation of the unfit.

This world is not a hothouse, and a race which owed its survival to the fact that the tubercle had ceased to exist, would on the whole be a race hardly worth surviving.

Personally I am of opinion, and I think such opinion will be shared by most medical men who have been behind the scenes and have not allowed their sentiments to blind them, that if to-morrow the tubercle bacillus were non-existent, it would be nothing short of a national calamity. We are not yet ready for its disappearance.—I am, etc.,

D. W. HUNTER.

Royal Albert Institution, Lancaster, June 26th.

SIR,—The truth here is particularly difficult to arrive at, as some points arise the value of which is hard to estimate. In pre-sanatorium days it was known that many patients who died from causes other than phthisis showed at *post-mortem* examination healed lesions of pulmonary tuberculosis. I speak now from memory, but I think the late Professor Coates used to put the figure at about 40 per cent. Again, the diagnosis of pulmonary tuberculosis is now, I believe, made much earlier than it would have been twenty years ago, and so many cases which are now sent to sanatoriums would then have been sent into the country for "a change of air." The result in many cases would have been similar, only now in the cases which recover the sanatorium gets the credit.

These two points alone—and others might be mentioned—make it very difficult to arrive at the exact value of the so-called sanatorium treatment. After a considerable experience here in what is one of the largest sanatoriums in the kingdom, I feel that the curative effects of a term of residence in these institutions have been unfortunately greatly magnified. In my annual report for the year 1908 I used these words: "I am becoming more and more convinced that the true value of the sanatorium is not curative, but educative." This statement, however, never reached the ears of the public, nor the profession, being apparently considered "not expedient."

In the same report I gave some figures, which I quote in the accompanying table, which throw a little light on this interesting question. The figures are unsatisfactory for two reasons. First, the returns are from the patients themselves, and from these I had to conclude what the state of health then was. Secondly, there is an enormous proportion untraced which, of course, vitiates the result.

Amongst those who are returned as "well" there are many who would have done quite well had they never seen a sanatorium. Others, from a medical point of view, are not well. Others have doubtless gained permanent benefit. There is no doubt whatever that a certain proportion of the cases do ultimately recover, but what that percentage is I fear cannot be arrived at by the present mode of making statistics.—I am, etc.,

Year.	No. of Patients	Well.	Relapsed.	Dead.	Untraced.
1900 & 1901	223	41 or 18.0%	3 or 1.3%	72 or 32.0%	107 or 48.0%
1902	227	34 or 15.0%	3 or 1.0%	60 or 26.4%	130 or 57.0%
1903	192	38 or 19.3%	5 or 2.6%	57 or 29.0%	92 or 47.0%
1904	159	20 or 12.5%	3 or 2.0%	51 or 32.0%	85 or 53.4%
1906	141	51 or 36.2%	8 or 5.0%	51 or 36.2%	31 or 22.0%
1907	199	67 or 33.6%	13 or 6.4%	74 or 37.2%	45 or 22.6%
Total ...	1,141	251 or 22.0%	35 or 3.0%	365 or 32.0%	490 or 43.0%

JOHN GUY, M.D., D.P.H.Camb.,
Glasgow, July 5th. Medical Superintendent.

MENTAL AND NON-MENTAL.

SIR,—The terseness with which Dr. Macleod states his own views and those he opposes[1] is certainly in sharp contrast with the discursive method which the great thinkers on the subject he touches suppose necessary. Our notion, that is, our knowledge, of a thing, Leibnitz says, is clear and obscure, distinct and confused, adequate and inadequate, intuitive, symbolical, perfect. Note that the conjunction is *and*, not *or*. My notion of a rose is clear and perfect when I am conscious alone of giving the same name to an idea and a thing; I know the name at least. The notion or knowledge is, however, confused when I use the name to identify a common nature in the idea and thing. I am clear again when I say that the name is symbolical, and in that sense adequate to express two distinct things. I become clear, however, by shelving the question of the nature of the idea and thing, and affirming the adequacy of the name as an expression for both. I find now that I can expand the expression, without losing the precious quality of clearness, so as to make it one for the British Museum with all the heterogeneous articles in it, including the most heterogeneous of them, the studious minds in its reading room. I can, in fact, put "universe" as an expression for everything I know and do not know, or know in a confused, obscure, and inadequate way. Similarly I can put any random assemblage of things, connoting a complex of ideas, under the form of an expression ignoring the nature of thing and idea; I can speak of millions without knowing or caring to know any particular millions of objects.

"British Museum," "universe," are stated as collective expressions; "rose" as a concrete expression. But whether we state the rose as a creation of sensation or of qualities in a thing the sense is collective, and not merely in the positive but negative sense; the expression "rose" connotes what is not a rose; a botanist would be nowhere if he had only *Rosaceae*. This gives the argument for Mind as an independent, non-physical entity. When we exclude from the rose as a physical thing or object in sentience, any expression we can form for the excluded element is one for an abstraction, a pure mental form. In cursory common thought it seems enough to say that the rose is not a lily, but neither is it a star nor a stone; the true negative expression is one for any mentally formed collection apart from the individual rose in question. The botanist takes an order near *Rosaceae* for his negative expression just as we take 100 distinct from 99 or 101, the true negative being all the numbers below or above 100, cypher or infinity.

We have clear knowledge only as we hold that the expressions "mental" and "non-mental" exclude each other. When I write down 1 or 100, although I use a physical form of expression, I know that the symbolical or mental sense excludes the physical or non-mental sense; the expression is one for nothing that can be said to be non-mental. But the non-mental occurs in such a form that I can apply the expression to it; I can speak of one or one hundred stars, trees, or human beings, provided the expression excludes all other objects and other numbers of them.

[1] BRITISH MEDICAL JOURNAL, July 9th, p. 114.

The mental form or idea as the antecedent creates for itself the name, expression, or ideograph. Thus, an ideographic point is a geometrical one—that is, one through which any number of lines in any direction can be drawn. Under physical conditions such a point is impossible, but the point, as physically expressed, describes no physical fact *in esse*, is only a symbol in sense, a name for the two different objects in thought, the idea and thing. The physical point, like the word point, is not the mental or ideographic point, but an expression or symbol for it. Mathematics would be mere nonsense if it was a theory of physical points and rows of unequal points or physical lines.

As "Mind" is a subject of inductive reasoning, it appears to us under the form of an aggregate of individual minds, and it can be determined as an unity or entity by determining common factors in the aggregate. But the induction appears also to bring in differential factors, logically forcing us to identify one individual mind by characteristics not in it, as we identify a rose or a physical point by characters not in rose or point. An occultist would say that one mind is more dematerialized than another, or can dematerialize itself as another cannot. Another supposition made is that a man knows what is outside of him because the limits of his body and sense organs are not the limits of mind. Another is that the matter of one's body is in respect of mind as a stick, stone, or steam engine outside of him; our bodies are not self-conscious or self-knowing, but known as external objects are. The "ideas" of Plato and Plotinus are of this kind, forms in nature not ourselves; we only express them by physical symbols particular in respect not of their original nature but conditioned to our physical nature by form of expression. We have clear knowledge of the form of expression and its general application to idea and thing, but the nature of what is expressed remains in the regions of obscure and confused knowledge where it always has been, and rejects reduction to terse and explicit statement. The proof of this is given by the vast array of confused and contradictory statements in the historic field of thought.—I am, etc.,

Newry, July 12th. W. R. MacDermott, M.B.

"FAITH HEALING AND PHENOMENA OF THE OCCULT."

Sir,—Allow me to thank Dr. Claye Shaw for having noticed my letter so courteously. He would not have lost anything of the high respect to which his attainments entitle him if he had passed it over in silence, since it did not even remotely call in question the main theme of his paper. Indeed, I owe him an apology for having chosen his paper as an excuse for my criticisms, and I humbly tender it.

As Dr. Claye Shaw's object was to "arouse speculation and to show that many accepted theories are still open to doubt," mine was to arouse independent thought, untrammelled by authority, and to point out a few from among the many preconceived errors which hamper the real progress of Natural Philosophy.

Newton wrote in his *Principia*:

> But hitherto I have not been able to discover the causes of those properties of gravity from phaenomena, and I frame no hypotheses; for whatever is not deduced from the phaenomena is to be called an hypothesis; and hypotheses, whether metaphysical or physical, whether of occult qualities or mechanical, have no place in experimental philosophy.

We could not assist Newton if he were alive to-day; probably because we have not profited by his warnings.

I have already touched upon three points, and they are sufficient for a beginning. From the position I have taken up I cannot retreat.

We are all agreed that the vibration hypothesis is a very useful and convenient means of service at the present time, but when it is used for the purpose of sustaining a new hypothesis it is necessary to disclose the truth in regard to it, namely, that it is entirely dependent upon a postulate—the ether—and the whole is an elaborate mathematical exercise devoid of a single prop from experimental philosophy, with as much or as little reality as zero or infinity.

In regard to force I will admit that if force were anything at all there would certainly be some truth of quality or amount about it, and such a phrase as "conservation of energy" would have the meaning assigned to it in most books on the subject. In natural philosophy force is nothing at all, and simply does not exist. Every natural phenomenon which has been explained may be explained without the introduction of the word force, or energy, or other synonym.

"To every action there is always opposed an equal reaction; or the mutual actions of two bodies upon each other are always equal and directed to contrary parts" (Isaac Newton).

A hot body will heat a cooler body exactly in proportion as it is cooled by the latter. There is no need to assume the passage of force from one to the other. The bodies interacting are themselves the agents; they tend to equalization. So with electricity, magnetism, and every other physical affection.

We may speak of the force of a reaction, meaning its velocity, and it is in this sense that I spoke of force as having velocity. We are not justified in introducing force as an entity, and assigning to it dimensions, qualities, and moods which are the attributes of substances. The ordinary phrase "pent-up energy," when used in reference to living beings, I believe has a deep significance; but when used in reference to material things expresses to us the same idea and the same superstition as the phrase "bottled-up devil" might have expressed to the ancients. Force and energy are twentieth century sylphs, naiads, gnomes, and salamanders.

I am not surprised that Dr. Claye-Shaw is unable to follow my third objection. It is so much at variance with orthodoxy, that it is only by divesting the mind of preconceived ideas that it is possible to look upon so-called conductors as in truth resisting reactions rather than assisting them. This is a fact which I could demonstrate if called upon to do so by repeating one of the experiments of Tyndall.

I am not quite clear as to whether the example Dr. Claye Shaw gives is intended to refute my statement that "there are no conductors as ordinarily understood" (in the sense of assisting the passage of force from one body to another), or to refute the statement that "a body cannot transfer its *own* motion to another unless it touches it."

The interposed lens between the rays of the sun and the hand surely impedes these rays, for they are partly reflected from the surface of the lens and do not reach the hand undiminished. They are merely concentrated upon a smaller area. He cannot mean that the interposition of the lens transfers the motion of the sun to his hand, thereby causing his hand to move. He has obviously overlooked the word "own," which is now printed in italics. The fact that one body does influence another in such a way as to cause it to move towards the first is a primal law of Nature upon which innumerable phenomena depend.

An accurate, clear, and independent conception of the truths of physics divorced from speculative hypotheses and mathematical equations is as much a need of medical scientists as of any other, and if my remarks have caused any to ponder they will have served my purpose.—I am, etc.,

London, W., July 18th. W. B. Parsons.

ON THE PRESENCE OF SUGAR IN HEALTHY URINE AS A SOURCE OF THE OSAZONE REACTION.

Sir,—The Journal of July 16th contains a letter from Dr. Cammidge relating to the article from us with the above heading that was inserted in the Journal of the previous week. Dr. Cammidge admits that it is now generally conceded that healthy urines contain sugar, but states that "most observers hold that the quantity is exceedingly small, very much smaller than is stated by Drs. Pavy and Bywaters in their paper." It is to this point that we desire to call attention, believing that the question is one of much importance, regarded alike from a physiological and a pathological standpoint. We will proceed to give the foundation for the view expressed by us and then refer to the work of Schöndorff put forward by Dr. Cammidge in opposition to it.

To begin with, a positive reaction is susceptible of being

obtained from the products derived by appropriate procedures from healthy urine by all the varied tests for sugar, including fermentation. The cupric oxide reducing power of the sugar is one of the properties that is more generally than any other turned to account for both qualitative and quantitative test purposes. The ammoniated cupric (Pavy's) test solution is in extensive use for the quantitative determination of sugar in diabetic urine, and its sensitiveness is such as to render it applicable to healthy urine. No preliminary evaporation, precipitation, or other operation is needed. It suffices for the urine to be titrated straight off with the test solution. In every instance it gives evidence of the existence of a reducing agency, and the quantity can be read off with as much facility as when the reducing agency is in larger quantity, as in diabetic urine. Of course it does not distinguish one reducing agency from another, but the reducing agents belonging to normal urine have been defined as consisting of creatinine, uric acid, and sugar. The reducing power of both creatinine and uric acid is known, and upon the strength of the amounts of these bodies ordinarily present in urine only a small fraction, namely, about one-fifth, of the reducing power ordinarily met with is attributable to them.

As a further point, the reducing agency belonging to normal urine shows itself to be susceptible of undergoing a marked increase on subjection to the hydrolyzing influence of boiling with a mineral acid. This increase of cupric oxide reducing power cannot arise from creatinine or uric acid. It can only come from conversion of a lower into a higher cupric oxide reducing sugar, or from the liberation of a sugar from a glucoside or compound into which it is incorporated. The increase is thus restricted to origin from carbohydrate, and plenty of evidence exists to show that a maltose type and other even lower cupric oxide reducing types of sugar are present in healthy urine. This being the case, the figures given previous to hydrolysis fall short of expressing the actual amount of carbohydrate present to the extent that they stand below the figures given after hydrolysis. In a group of twelve examples, for instance, the actual average figures were found to stand at 2.79 per 1,000 before hydrolysis and 4.63 after. The relation between these figures being as 60 is to 100, it follows that the figures obtained before hydrolysis represent only 60 per cent. of the carbohydrate actually present. Moreover, the difference between these figures, namely, 1.84 per 1,000, must be regarded as representative of carbohydrate put into an altered state by the hydrolysis. As regards glycuronic acid, if considered to exist in normal urine, it is looked upon by authoritative observers as only present to a minute extent—an extent of too infinitesimal a nature to have any bearing of significance in relation to the actual figures represented above. Its presence as an incidental ingredient is outside the question that is being considered.

That sugar should be present in normal urine is only in accord with what is to be reasonably expected. Sugar belongs to the group of bodies that find their way from the blood into the urine. It is known that bodies of a diffusible nature, on in any manner reaching the circulation, pass off with the urine. The phenomena of diabetes show that sugar escapes with the greatest facility. There is no dispute about the existence of sugar normally in the blood. A certain standard amount, varying within certain limits, is present, irrespective of feeding and fasting. From this standard amount a source exists for the presence of sugar in normal urine. It would be contrary to the order of things observed to prevail if sugar, under the circumstances, did not find its way into the urine. Any increase upon the standard amount in the blood, in whatsoever manner produced, immediately shows itself by a proportionate addition to the normal urinary sugar, so that the state of the urine comports itself according to the state of the blood. They run concurrently together, independently of whether the quantity is large or small.

We have been struck with some surprise that Dr. Cammidge should have adduced Schöndorff's results, obtained as a worker in Pflüger's laboratory, in support of his views. Schöndorff, working with Worm-Müller's test (a modification of Fehling's), states that out of 334 specimens of urine passed by soldiers, he obtained a positive reaction of sugar in 316, and in none after the urine had been subjected to fermentation. In the case of 53 specimens of urine passed by students, 8 of them only, he says, gave a positive reaction. Knowing what we do about the inhibiting influence of constituents of the urine upon the copper test, nothing short of amazement can be created at what he subsequently gives as the quantity of sugar present. In Dr. Cammidge's words upon the matter, "The most recent observations on this point, carried out by Schöndorff, place the average amount at 1 in 10,000—a quantity which requires special methods for its demonstration." In the special methods employed by Schöndorff we find mention made of treatment with mercuric nitrate, and then with caustic soda until nearly neutral. The precipitate is filtered off and washed with mercuric nitrate solution, and the filtrate and washings, after adding a few drops of nitric acid and strongly acidifying with acetic acid, treated with sulphuretted hydrogen to throw down the excess of mercury. The volume of the filtrate is said to be now sometimes 10 to 15 litres, after having started with from 1 to 2 or 3 litres of urine. After removal of the mercury sulphide precipitate, the liquid is evaporated on the water bath (a process said to often take one to two days) until salts begin to separate out. The hot salt-saturated liquid is now poured into five to ten volumes of alcohol to precipitate the salts and, after filtration, the alcohol driven off again by evaporation. The treatment with alcohol is repeated, if necessary, the residue being then dissolved in hot water and the polarimeter or Fehling's solution employed to estimate the sugar present —We are, etc.,

F. W. PAVY,
H. W. BYWATERS.

London, W., July 19th.

THE EXCURSION TO BATH ON JULY 30TH.

SIR,—I crave the indulgence of a space in your columns to reply to some correspondents relative to the excursion to Bath after the Annual Meeting, more especially with regard to what we have to show our visitors who honour us by coming. The Mayor and Corporation and the local members of the Association have co-operated to try and make the visit a pleasant and interesting one.

It is, I believe, sixteen years since an official visit was last paid to Bath by an excursion from an annual meeting, and since then much mineral water—to be precise, three thousand million gallons—has flowed into the Avon. The ancient baths have been uncovered to a greater extent, and we now boast the finest old Roman Thermae north of the Alps. The foundations are as good as they were 2,000 years ago; the stones worn by the tread of patricians and plebeians remain unchanged; the lead lining the bottom of the baths is uncorroded, and still serves the purpose for which it was used in the days of Constantine, whilst the water enters and leaves by the self-same Roman culverts. With regard to our modern baths the Corporation hope to show a part—there will not be time to show all—of what we believe to be the finest suite of baths in the world, supplied daily by Nature with half a million gallons of mineral water, heated to a temperature of 120° F. in Nature's own cauldron, as occurs nowhere else in the United Kingdom. It is proposed to show the baths in actual use, demonstrating the methods by douches and massage, etc. And last, the city and the profession want to give ocular and corporeal proof to the Association that Bath is less than two hours' journey from London on the best laid railway in the country, and that it is in direct communication with every part of the United Kingdom.

The Queen City of the West offers a genial greeting and a warm welcome to the British Medical Association.—I am, etc.,

W. M. BEAUMONT,
Honorary Secretary, Bath and Bristol Branch.

July 17th.

SICKNESS AND INVALIDITY INSURANCE.

SIR,—Having read the correspondence that has taken place on this subject since I last wrote, and also the leading article in the JOURNAL of June 25th, I think that it is clear that the majority of the correspondents were in favour of the payment for work done system.

The leading article in the JOURNAL suggests that there are difficulties. There may be difficulties, but such could be easily overcome by modern insurance methods. It would be a slight on those engaged in insurance work to say that it is not possible.

If a society like the National Deposit Friendly Society, which is worked on the payment for work done system, has almost doubled its membership from the years 1903–9, from 103,735 to 201,849, as Dr. Gosse states, I think that is proof enough that the system works, and that it is popular among the working classes. There is a slight risk of the deposit running out (Dr. Gosse says in his district less than 0 5 per cent. per year); that risk could easily be covered by insurance.

If the British Medical Association has made up its mind to a contract system, ignoring the opinion of the vast body of the medical profession, it is, of course, a different matter; I cannot believe that such can be the case.

I already suggested a referendum, and Dr. Fothergill has proposed certain questions.

Could the Association not draw up questions suitable to the case, and I think both Dr. Fothergill's questions are very suitable, and submit these to the whole body of the profession, members or not? That is, I believe, the only means that would enable the general practitioner to have his opinion in those matters properly stated.

Could the British Medical Association not draw up a scheme based on the payment for work done system and submit it also?

When this all has been done the Association will be able to approach the Government armed with the necessary information, and also will be able to speak as the representative of the entire profession. If a referendum is not taken it can speak with no sure authority.—I am, etc.,

Long Eaton, July 18th. ERNEST MILLIGAN.

SIR J. Y. SIMPSON'S CENTENARY.

SIR,—On June 7th, 1811, there was born in Bathgate, which lies about midway between Edinburgh and Glasgow, the man who was to become the professor of midwifery in the University of Edinburgh, who was to introduce into obstetric practice the priceless boon of anaesthesia in the form of ether, and who was later to discover the anaesthetic properties of chloroform, and so to make possible many of the great advances which have taken place in surgical and medical work. With the near approach of Sir James Simpson's centenary, it may interest many to know that the Edinburgh Royal Maternity Hospital, which bears also the name "Simpson Memorial," and which, according to the *Dictionary of National Biography*, vol. lii, p. 273, is "his chief monument in Edinburgh," is in need of extension and alteration to enable it to cope with the increased demands made upon it, and to come abreast with modern advances in obstetrics.[1] It would appear to be singularly appropriate if the first year of the reign of His Majesty King George V and the centenary year of Sir James Young Simpson should be marked by the extending and worthily equipping of the "*Royal* Maternity and *Simpson* Memorial Hospital."—I am, etc.,

Edinburgh, July 15th. J. W. BALLANTYNE.

POST-CHLOROFORM VOMITING.

SIR,—I observe that a discussion on chloroform vomiting took place at the meeting of the Edinburgh Obstetrical Society on June 8th.[2] The discussion included vomiting occurring during the actual administration of the anaesthetic, and also that coming on afterwards. I propose only to deal with this last.

It is only in a small percentage of cases that post-chloroform vomiting is really difficult to deal with, but occasionally cases are met with so severe and obstinate, that the term "malignant" might almost be applied to them.

Many years ago I was sometimes bothered with cases of this kind, and have been at my wits' end to know what to do with them. Now, I had found that chloroform itself was occasionally an effectual remedy in some forms of obstinate vomiting; I had also noticed that confirmed "spreeërs" were mostly aware that the vomiting succeeding an alcoholic debauch was often most effectually treated by small doses of alcohol, and usually adopted this method, even where the spreeing impulse had passed away, and a return to temperance was desired. It occurred to me that in this, and in post-chloroform vomiting, the vomiting might be due to the sudden withdrawal of the drug rather than the actual presence of it in the system, and so I determined to try the administration of chloroform in small doses frequently repeated. I recommended the sufferer to pour two or three drops of chloroform on a lump of sugar and suck it whenever the desire to vomit come on. I have not seen a really bad case of post-chloroform vomiting for very many years, but my recollection of the brilliant results in some cases attained by this treatment is still so vivid that I feel justified in adding my small mite of experience to the general stock, knowing that, if my experience was exceptional, and consequently my deductions from it unreliable or misleading, the method will soon receive its due appraisement at the hands of those whose opportunities are so much larger than mine ever were.—I am, etc.,

Blackpool, July 1st. WM. HARDMAN.

[1] See BRITISH MEDICAL JOURNAL, July 2nd, p. 43.
[2] BRITISH MEDICAL JOURNAL, June 18th, p. 1511.

THE HABITS OF SEAMEN.

SIR,—It affords me pleasure to corroborate the statements made by Mr. T. W. Moore, Secretary of the Imperial Merchant Guild, regarding "The Habits of Seamen."

I speak from considerable experience, for I have sailed as ship surgeon on voyages to the United States, India, China, the Arctic regions, and Peru. I have seen a good deal of our seafaring folks, and I have no hesitation in saying that it would be unfair to brand them as a drunken class.

No doubt when the sailor gets ashore after a voyage he is apt to indulge too freely, and there is no denying the fact that the fireman frequently starts on a voyage suffering from the effects of deep potations, and celebrates the end of it with a very free indulgence in liquor. But they do not drink at sea, and, taking the years round, they consume less alcohol than the same class ashore.

It is to be deplored that the foolish fellows look upon a "spree" as the legitimate solace for the hardships of a long voyage, or the broiling heat of the stokehold in the tropics. As to the captain and officers of our mercantile marine, there is no class for whom I have greater respect, sympathy, and goodwill. I have often thought that the public and shipowners do not quite realize what they owe to these men.

Ship officers as a rule are poorly paid, and they have very heavy responsibilities. At sea there are the watches on the bridge ("Mount Misery")—it may be in the bitter cold gales of the North Atlantic, with the spindrift lashing into the face and eyes over the "dodger"; it may be under the dazzling glare of the tropical sun; it may be on pitch-dark nights, peering through driving rain to "pick up lights." No wonder the eyes get strained and bloodshot. In port the ordeal is perhaps more exhausting. Standing on deck for weary hours tallying cargo under the blaze of an Indian sun, with the constant din of rattling steam winches and the yelling of human voices, is rather wearing to the nerves.

I am tempted to say more of the physical strain and mental worries to which these men are subjected in their arduous avocation; but I have said enough to show that there is no need to call in alcohol as an explanation of mischief occurring in eye or nerve, though doubtless in some cases it may be a factor.

In my experience the officers of our mercantile marine are a sober, well-conducted class of men, devoted to the faithful discharge of their onerous duties. And well is it for the public and for shipowners that it is so.

As to tobacco—it is the great solace for these poor fellows when relieved from duty; but I fear that in some cases it is indulged in too freely.

It has given me pleasure to bear testimony on behalf of my old shipmates; but at the same time I am sure that Dr. Harrison Butler never meant to brand the officers of our mercantile marine as an intemperate class of men.—I am, etc.,

Lanark, June 25th. JAMES W. ALLAN, M.B., C.M.

THE VALUE OF THE PANCREATIC REACTION IN ABDOMINAL DISEASE.

SIR,—Will you allow me to suggest that Dr. William Russell does not by any means make out his case in his paper on p. 5 of the JOURNAL of July 2nd? He is, of course, literally correct in stating "That the reaction is a reliable guide to the condition of the pancreas has not been borne

out by our observations." Unfortunately, the said observations, from their omission to take into consideration the amount of total, saponified, and unsaponified fat in the stools, like most of the recorded work on the same subject, are of little or no value for the purpose for which they were undertaken. In fact, they go far to prove the opponent's case. There is nothing whatever to show that in all the cases in which the reaction was positive and the patient afterwards improved or was cured disease of the pancreas was not present. As a matter of fact, I should say that chronic pancreatic catarrh or chronic pancreatitis *was* probably present in the whole of the cases under Table D. We know that this condition is most frequently met with in intestinal catarrh and in ulcer of the duodenum, and that it is cured in most cases soon after the original affection improves under treatment. The positive reaction in cases characterized by "gastric symptoms, constipation, indigestion," would suggest the presence of pancreatic catarrh in the absence of more definite information as to the gastric condition really present or the condition of the fat digestion. I notice that Dr. Russell does not mention whether he has used the improved C reaction or the obsolete A and B tests.—I am, etc.,

London, W., July 4th. GEORGE HERSCHELL.

OPTIC NEURITIS IN CHLOROSIS.

SIR,—May I suggest that the writer of the annotation on this subject in your issue of July 16th should publish the facts on which he rests certain of the conclusions he there announces? Perhaps the proposition that cases of optic neuritis in chlorosis are "probably far from uncommon" is the one to which this claim particularly applies, as, at least to some interested in this subject, such a statement must be somewhat surprising. Sir Clifford Allbutt, for example, writes that "optic neuritis is discovered occasionally in chlorosis"; and Dr. Byrom Bramwell, after a review of 314 cases of the disease, says that "in a small proportion of cases of chlorosis optic neuritis occurs."

So far as my own experience on this point goes, I may say that I have made it a rule for many years to examine the fundus oculi of every patient who has come under my observation, yet I cannot number more than six instances of the association of optic neuritis with chlorosis. Again, your contributor—unfortunate, alas! in his attempt correctly to spell my name—credits me with the belief that "sinus thrombosis alone can account for the simultaneous appearance of optic neuritis and adducens paralysis," while a few lines earlier he states that "paralysis of the external rectus has been present in these chlorotic cases." This seems to imply that I have restricted the suggestion of intracranial thrombosis as the cause of optic neuritis and ocular paralysis to those cases in which the paralysis affects the inward-rotation movement of the eyeball, whereas, as a matter of fact, I have in this association written of "ocular paralysis" in general, though in the cases I personally have recorded the paralysis was in each instance one affecting the external rectus muscle.

Finally, the annotation states that Sir Wm. Gowers has "adopted" this view. Now here particularly a quotation of time and place would be welcome, as a reference to the *Ophthalmological Society's Transactions* (vol. xxii) will show that a paper on Intracranial Thrombosis as the Cause of Double Optic Neuritis in Cases of Chlorosis, which I read before that society in 1902, received from Sir William the courteous but faithful criticism of which he is an acknowledged master.—I am, etc.,

Harley Street, W., July 19th. C. O. HAWTHORNE.

EPIGASTRIC PAIN AS A COMPLICATION IN MUMPS.

SIR,—We have recently been experiencing an epidemic of mumps, and in connexion therewith I wish to draw attention to a symptom or sequela which does not seem to have been previously sufficiently noticed—namely, epigastric pain and vomiting. Out of about a dozen cases of mumps that I have seen during the past few months it has been present in six cases. It has generally occurred about the time that the swelling of the parotid glands has subsided, sometimes three or four days after. In most of the cases I have only been consulted on account of the pain and vomiting, and have elicited on inquiry that the patient was just recovering from an attack of mumps, which may have been slight. The duration of the vomiting has generally been about two days, but in one case lasted for five or six. In one case it was so severe as to have suggested intestinal obstruction if the history of mumps had not indicated the cause.

Very probably the symptom has been observed before, but that sufficient attention has not been paid to it is evident from the fact that in all the authorities that I have consulted—Osler, Bristowe, Yeo, Carter, and the article in *Quain's Dictionary of Medicine*—no mention is made of it. I have thought it, therefore, of sufficient importance to record my experience. As to the cause I am inclined to think, from the partial resemblance in function between the salivary and pancreatic glands, that it is due to some "metastatic" affection of the pancreas, similar to the affection of the testicle which sometimes occurs.

I have not found medicines of much use, as the usual drugs, such as bismuth mixtures, were vomited, and I have obtained most relief by counter-irritation, as by means of a mustard plaster over the pit of the stomach.—I am., etc.,

HORACE P. GODFREY,
Melbourne, June 10th. M.B.Melb., F.R.C.S.Eng.

ETIOLOGY OF IRITIS.

SIR,—Your editorial on this raises some very important points. The subject has interested me greatly, and, with your permission, I will summarize the results of my own observations:

Syphilis	70 per cent.
Gonorrhoea	20 ,,
Oro-alimentary, uterine, and tubal infection	9 ,,
Tuberculous	1 ,,

Of double iritis the cause is almost certainly syphilitic.

The "rheumatic" iritis of the textbooks I do not know the meaning of. I have never known or heard of iritis as a complication of rheumatic fever.

Surely it is time we revised our terminology! I know of nothing more difficult than to satisfy oneself of a history of syphilis. Nor, indeed, is this to be wondered at. The "hard" sore is painless; it may be hidden under the prepuce or inside the urethra; it rarely lasts more than six weeks, and often leaves no scar. In the case of a woman the ordinary medical man can hardly ever succeed in finding it, as its detection requires the keen eye of the expert. Moreover, "secondaries" are often very slight. What does a working man trouble about a transient non-irritating rash or a mild sore throat? Hence, many patients conscientiously repudiate all knowledge of infection. Let me cite a not uncommon experience: A fat man with iritis comes for advice. The usual inquiries are made and a stout denial is given. At a subsequent visit the other eye is found to be attacked—a circumstance that makes you feel almost absolutely certain that syphilis is present. You insist upon the patient stripping, and you find a copper-coloured rash on the lower abdomen, which the patient had not noticed on account of his corpulence.—I am, etc.,

London, W., July 16th. KENNETH CAMPBELL.

HEREDITY AND ENVIRONMENT.

SIR,—Professor Karl Pearson, in his letter in the BRITISH MEDICAL JOURNAL of July 9th, seems to have misunderstood the point of my criticism of the Galton Laboratory memoir on alcoholism. I merely pointed out that one set of statistics used for this work differed considerably in one respect from those of certain medical investigators I named, and suggested that possibly this might be partly due to the fact that the house-to-house visitation necessary to collect them was not made by a medical man. I have always understood that in the Manchester investigation the late Dr. Ashby did not himself visit the homes of the children concerned. If Professor Pearson can state that Dr. Ashby did so, my objection falls to the ground; if not, I shall still maintain that the conclusions would have been more convincing if this part of the work

had been done by some one with a medical qualification rather than by lay helpers, however careful and conscientious.

With regard to Miss Dendy, I am extremely sorry if there has been any misunderstanding of my meaning. I said that Miss Dendy's theory about the relation of alcoholism to congenital mental defect was already known. Her ideas seemed to me to be based on the statistics she had helped to collect in Manchester a few years ago, and I therefore suggested that those statistics when made use of by the Galton Laboratory could not throw any new light on what is evidently a controversial question. My remark was not intended to apply to any fresh information Miss Dendy might have collected.

As regards the sample of normal children referred to by Professor Pearson, I found that the parentage did not show "practically the same high percentage of alcoholism," but only about half as much.—I am, etc.,

Birmingham, July 11th. W. A. POTTS.

AUSCULTATORY PERCUSSION.

SIR,—May I be permitted, as one in daily touch with the problems of the stomach, to contribute to this correspondence? In the case of the normal stomach the area of resonance, as marked out by auscultatory percussion with the patient lying on the couch, has no relation, unless by chance, to the shape of the stomach as shown by a bismuth meal. The normal stomach usually takes the form of a rather narrow tubular organ, placed vertically on the left side of the abdomen, and turning inwards somewhat sharply at its lower end, at about the level of the umbilicus. The resonant area marked out by auscultatory percussion usually passes horizontally across the abdomen at a higher level. This area may frequently be seen on the fluorescent screen as an area of increased transradiancy. It usually consists largely of transverse colon, though in some cases a portion of the cardiac end of the stomach is included in this clearer area. These are matters of daily observation, and any one who denies their accuracy practically admits, by so doing, that he has not had opportunities of observing them himself. Mechanically, we have only to consider the ready way in which the various coils glide over one another in accordance with the demands of the law of gravity to realize that air-containing viscera must rise to the surface as far as they are free to do so. In this way an air bubble of varying size is constituted, and though usually of composite origin it acts as a single resonance chamber.

The above remarks have reference to the normal stomach, though they apply equally to a great many abnormal conditions.

The fallacies which would arise from faulty projection, due to the circumstance that the bismuth meal falls to the most dependent part while the air bubble rises to the surface, are corrected at every examination by reducing to a small size the aperture through which the x rays emerge, and moving the x-ray tube in its box around the margins of the stomach, marking these margins upon the fluorescent screen as they appear in view. This is the routine application of the method of orthodiagraphy mentioned by Mr. Shenton in the JOURNAL of June 25th, p. 1579.

In the case of the greatly dilated stomach, however, the condition of affairs is somewhat different. It is impossible to give a bismuth meal sufficiently large to fill the stomach, and consequently the bismuth meal occupies the most dependent parts of the stomach, whose real outlines cannot always be marked out, as they can in the case of a stomach of moderate size. A dilated stomach distended with gas forms a resonance chamber of its own, and its borders can readily be marked out, even by ordinary percussion, without fear of adding the colon resonance to it, for in this case the colon is far less tensely filled, and emits a different note.

When the patient is examined in the vertical position that portion of the air bubble which is due to air in the stomach rises to the top and is seen close under the diaphragm, while that portion which is due to gas in the transverse colon usually separates into two portions, occupying respectively the splenic and hepatic flexures.

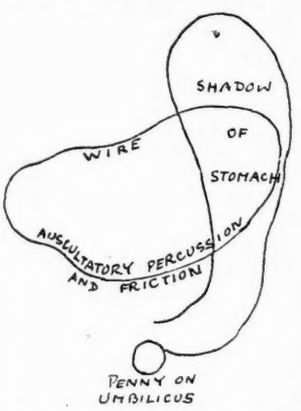
With regard to the interpretation of anomalies of the stomach by the bismuth method, the evidence in many cases is sufficiently definite to lead to a reliable diagnosis, though every man of experience in the method will admit that he has occasionally misinterpreted the appearances. A great safeguard is to have the patient previously prepared by a thorough evacuation of the bowels, and a still greater safeguard is to insist, in every doubtful case, on a second examination.

It is to be hoped that with increased experience the fallacies which still exist will be gradually eliminated, but even at present the x-ray examination is found to be an extremely valuable aid to diagnosis in a large proportion of stomach cases, and it will undoubtedly soon become a matter of routine, as it has already become in the practice of many leading physicians.—I am, etc.,

ALFRED C. JORDAN, M.D.Camb.,
Medical Radiographer,
Guy's Hospital.

London, W., June 28th.

SIR,—I am surprised to find that auscultatory percussion can still find such an ardent supporter as Dr. Auld. I am the more surprised on discovering that the only evidence which he can bring in support of his belief that it is "a most valuable diagnostic aid" and "the only form of percussion reliable as regards the stomach" is that he has used it for at least eight years. He will find in Mr. Shenton's letter an explanation, which will, I am afraid, remove his satisfaction that any "fallacies" in my arguments have been exposed by Dr. Cotton. It must have been clear to anybody, who had the slightest familiarity with x-ray work, that I would have taken care to avoid the fallacy to which Dr. Cotton referred. It was to avoid this fallacy that I have generally contented myself with screen examinations instead of taking ordinary skiagrams, in which, of course, there must always be a considerable amount of distortion. But I am sure that Dr. Cotton will be the first to admit that such distortion is quite insufficient to account in any way for what is shown in the accompanying skiagram,[1] which has been accepted as a convincing argument against auscultatory percussion by a gentleman who was formerly a strenuous advocate of the method, but was sufficiently open-minded to be willing to put it to the proof.



Half a pint of bread and milk with 2 oz. of bismuth oxychloride was eaten by the patient, who then lay down on the x-ray couch. The expert in auscultatory percussion now marked out the stomach by this method with a dermograph on the patient's skin, keeping his eyes closed. A believer in auscultatory friction then did the same, and an almost identical outline was obtained. Finally, with my eyes closed, I marked out exactly the same area by auscultatory percussion. A metal wire was then fixed by strapping over the outline marked on the patient's skin, and a skiagram was at once taken by Dr. A. C. Jordan. It will be seen that the outline obtained by auscultatory percussion and friction does not bear the remotest resemblance in size, shape, and position, to the stomach shadow.—I am, etc.,

London, W., July 5th. ARTHUR F. HERTZ.

P.S.—The area of "superficial gastric resonance" described by Dr. G. F. R. Smith is of very small importance, as anybody who read Dr. Lauriston Shaw's letter in your issue of June 25th must admit. When compared with the shadow seen with the x rays it occupies a relatively small area, which is generally confined to a portion of the upper half of the stomach. As Dr. Smith accepts Dr. Cotton's "pretty and scientific explanation" of x-ray discrepancies, I presume that his results must have been vitiated by the fallacy which Dr. Cotton has pointed out, although that is surprising in one who had the advantage of working under such a distinguished radiologist as my friend Dr. Thurstan Holland. Even allowing for fallacies, the fact

[1] Unfortunately the skiagram could not be satisfactorily reproduced for publication, although the shadow of the stomach and the wire were perfectly clear in both the negative and print. An outline tracing from a print has therefore been substituted.

that he obtained satisfactory outlines with auscultatory percussion and friction does not make the method generally trustworthy, as I have not myself yet found an exponent of either method who could mark the outline of the uninflated stomach with any degree of accuracy.

A DEFINITION OF INFLAMMATION.

SIR,—The interesting letter of Dr. James Oliver pays a just tribute to the two definitions of inflammation upon which reliance can be placed.

No. 1, "Redness and swelling with heat and pain," written by Celsus in the first century A.D., he truly says still holds its sway, as well it may, on account of its comprehensive brevity; and, even if not perfect, it is quite satisfactory so far as it goes, and can never be abolished.

It is quoted everywhere, and nowhere more appreciatively than in the article by John Simon which opens the first volume of Holmes's *System of Surgery*. In the second edition of that work, of which the first four volumes came out in 1870, this eminent author prepares the way for the completion of his essay by Burdon-Sanderson in the fifth volume, issued in 1871, p. 729. Here the subject is dealt with in the light of microscopical research, and is introduced by that remarkable and most exact definition quoted by Dr. Oliver as follows:

No. 2, "The succession of changes which occurs in a living tissue when it is injured, provided that the injury is not of such a degree as at once to destroy its structure and vitality."

I consider Burdon-Sanderson's definition perfectly explicit, and embracing every idea that any one can include in the definition. No doubt it is capable of abbreviation in words, and in my lectures I have for over thirty years ventured to curtail it, after first stating it in full, thus: "The effects of injury on the living tissues." If the tissues are killed the effects on them cannot be inflammatory, and the brief sentence just given seems to me sufficient to fix the attention of beginners, and of others trying to learn the subject.

The definition suggested by Dr. Oliver, "Inflammation is reaction of a structure or tissue to alien irritation, whether physiological or not, or to injury which does not annihilate responsive power," does not to my view express anything different, or make the case any clearer.

But my object in writing is not to cavil at Dr. Oliver, whose interest in the matter deserves sympathy, and whose object, like my own, is to try to simplify our comprehension of the principles.

I do not think that any definition of inflammation, except that of Burdon-Sanderson, has gone to the root of the matter in the language of modern science, but even so it is merely a definition, which by itself is not of much use until some insight into the process is acquired, and for this it is necessary to turn to Lister's work on

"The early stages of inflammation," including
"The aggregation of the corpuscles of the blood,"
"The structure and functions of the blood-vessels,"
"The effects of irritants upon the circulation," and
"The effects of irritants upon the tissues"; supplemented by
"The parts of the nervous system which regulate the contractions of the arteries" and
"The cutaneous pigmentary system of the frog";

read by Joseph Lister at the Royal Society, June 18th, 1857, published in the *Philosophical Transactions*, Part II, 1858.

These are all reprinted in the *Collected Papers of Lord Lister*, Clarendon Press, 1909.—I am, etc.,

RUSHTON PARKER,
Professor of Surgery in the University of Liverpool.

Liverpool, July 17th.

SIR,—Referring to Dr. James Oliver's letter in the BRITISH MEDICAL JOURNAL for July 16th, I would suggest that we can have no better and more brief definition of inflammation than that used by Burdon-Sanderson himself in 1891 (*Lancet*, November, 1891): "The reaction of living tissue to injury."

Of course, such injury may be mechanical, microbic, chemical, or physical.—I am, etc.,

MARCUS M. BOWLAN.

London, July 18th.

MEDICAL BRANCH OF THE NAVY LEAGUE.

SIR,—As a member of the Provisional Committee of the Medical Branch of the Navy League, I am writing to ask you if you will be so good as to permit me in a few lines to announce to members of the British Medical Association that a meeting of the Branch will be held at the London University, South Kensington, on Friday, July 29th, at 12.45 p.m. The Provisional Committee hope that this time and place will prove convenient, and that many members of the British Medical Association will attend and lend the support of their presence to the work of the League. Sir R. Douglas Powell has kindly consented to become the first President of the Medical Branch of the Navy League.—I am, etc.,

E. D. MACNAMARA.

London, W., July 19th.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.B., B.C.—J. D. Barris, C. N. Coad, K. T. Khong, H. Lee, G. B. Wainwright.
M.B.—R. Burgess. W. Harmens, O. Heath.
B.C.—N. L. Clarke, W. H. F. Eales, G. C. Lim, W. M. Penny, L. Powell, F. E. W. Rogers, M. H. Whiting, N. S. Williams.

UNIVERSITY OF ABERDEEN.

Summer Graduation Ceremony.

THE ceremony in connexion with the summer graduation at Aberdeen University took place on July 13th, Principal George Adam Smith presiding. In former years the summer graduation ceremony has usually seen the capping of medical students mainly with a few science and law graduands. The change, however, in the arts curriculum, and particularly the introduction of the three term session, has brought up an increasing number of arts graduates, and it would appear that in a short time the summer graduation will take the place of the spring graduation as the most important academic meeting of the year. Professor Cash, who has succeeded Professor Finlay as Dean of the Medical Faculty, introduced the graduates in medicine, who were as follows:

M.D.—†W. Brander (Sheffield), †J. E. Kesson (Aberdeen), *J. E. Mitchell (Carlisle), J. J. Johnson (London), R. McRae (Mintlaw), T. Taylor (Herne Hill), J. I. P. Wilson (Royal Waterloo Hospital).
M.B.—‡R. Semple, J. B. Anderson, R. M. L. Anderson, J. S. Annandale, J. A. Macarthur, C. A. McDonald, A. J. McLeod, J. J. A. Neil, J. J. du Preez, E. L. Reid, J. Ritchie, J. D. Robertson, C. K. Smith, H. E. Smith, M.A., J. W. Stephen, W. Taylor, H. J. Thomson, W. M. Tough.

* Commendation for thesis. † Highest honours for thesis.
‡ Second class honours.

On the same occasion diplomas in Public Health were distributed to the following:

Williamina, Abel, A. D. Brunwin, R. R. Duncan, K. Ross, M.A., A. J. W. Stephen, ‖G. A. Williamson, M.A.

‖ With credit.

At the conclusion of the capping ceremony the Principal referred to the work of the year, noting that beyond its ordinary routine the administrative work had been chiefly occupied with the preparation of two new ordinances, one in conjunction with the other Scottish universities for graduation in law, and the other, not yet completed, with the medical curriculum and the degrees to which it leads; secondly, with the discussion in conference with the other universities of the whole system of the preliminary examinations, and certain proposals for their improvement; thirdly, with the consideration of a scheme by a Committee of the General Council for the restoration of the tomb of their founder, Bishop Elphinstone, which had received the approval of the University Court, and for which subscriptions were now being asked. It was a happy omen for the success of their endeavours to do justice to the memory of the great statesman who was Chancellor of Scotland as well as the first Chancellor of their university in the only Scottish college known as King's that the first subscription should have come from his present Majesty, King George V, and he felt certain that the graduates of the University and the citizens of Aberdeen would not fail to follow the lead thus royally given to them. Fourthly, there had been the preparation of plans for the extension of King's College; and fifthly, the completion of a new financial arrangement between the University and the Aberdeen and North of Scotland College of Agriculture. He wished to emphasize the need of new class-rooms, especially for English literature and history, of an examination hall, and of the extension of the library at King's College. Plans for these were being drawn by Dr. Marshall Mackenzie, the architect of the University, and he appealed to wealthy friends of the University for funds to enable them to make these urgently required additions worthy of the history of the college, and especially of the ancient chapel to which they must stand in such close connexion. The Principal then announced that Lord Strathcona, the Chancellor of the University, had munificently gifted £10,000, to be devoted to the endowment of a Chair of

Agriculture. This, the Principal indicated, was the first real step towards the establishment of a separate Faculty of Agriculture. The new Faculty would have the new Professor as its Dean, and among its members the Professors of Botany and Zoology, the possible Professor of Political Economy, and the holders of such Chairs in Agriculture and Forestry as might be ultimately instituted.

University Prizes.

The John Murray Medal and Scholarship for the most distinguished M.B. graduate of the year was awarded to Robert Richards, M.A., and the Struthers Medal and Prize in Anatomy to J. D. Fiddes, M.A., B.Sc., for a preparation showing the relations of duodenum, pancreas, and spleen of male adult.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., B.C., *Part I.*—C. N. Gover, C. S. P. Hamilton, C. Jacobs, L. Magee, R. Sells, K. I. S. Smith, H. G. Sparrow.
Part II.—C. Armstrong, I. G. Cummings, G. B. Egerton, L. W. Hearn, F. Metcalfe, E. C. G. Parker, Jane Penman, H. A. P. Robertson, D. C. Scott, J. C. Spence, A. C. Taylor.
Part III.—A. C. Freeth, F. W. Harlow, J. D. Johnston, Grace W. Pailthorpe, C. T. G. Pearce, H. L. P. Peregrine, E. K. Ryan.

SECOND M.B., B.C. (*Anatomy, Physiology, and Materia Medica*).—*R. L. Kitching, *E. Phillips, E. Bramley, G. Carse, C. Duncan, L. H. W. Iredale, A. G. McFarlane, Nora Murphy, C. A. B. O'Neill, A. Patterson, J. L. Pringle, E. Ritson, F. S. Rood, C. O. Shackleton, J. S. Soutter, G. E. Stephenson, A. Sutcliffe, G. S. Woodman.

* Second Class Honours.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

QUARTERLY Council, July 14th, Mr. H. T. Butlin, President, in the chair.

Election of Members of Council.

The four Fellows elected to fill the vacancies occasioned by the retirement in rotation of Mr. Morgan, C.V.O., and Mr. Lockwood, by the death of Mr. Clutton, and the resignation of Mr. Wright (Mr. Morgan not offering himself for re-election) were:

	Number of Votes.	Plumpers.
Mr. Charles Barrett Lockwood ...	537	58
Mr. Bilton Pollard	514	38
Mr. John Bland-Sutton ...	499	63
Mr. Charles Alfred Ballance, M.V.O.	484	19

The late King Edward.

A letter from the Secretary of State for Home Affairs was read conveying the King's thanks for the loyal and dutiful address of the College on the occasion of the lamented death of His late Majesty King Edward VII.

King George and the Honorary Fellowship.

The President reported that His Majesty the King had graciously consented to continue to be an Honorary Fellow of the College.

Museum and Library.

It was determined that a collection of medico-legal specimens should be formed in connexion with the College Museum.

Gifts of Books.

The best thanks of the Council were given to Sir John Tweedy for his gift of books, including some rare editions of the fifteenth century; and to Mr. Stephen Paget for presenting the late Sir James Paget's notes of lectures and various MSS.

Removal of Members.

Two members were removed from being members of the College on account of misconduct, and they were called upon to return their diplomas of membership.

British Medical Association Meeting.

The President stated that, with the permission of the Council, the Conservator of the Museum and the Pathological Curator would conduct members of the British Medical Association over the museum on Wednesday, July 27th, between 4 and 6 o'clock.

Election of Officers and Lecturers for the Ensuing Year.

Mr. H. T. Butlin was re-elected President for the ensuing year, and Mr. Clement Lucas and Mr. Mansell Moullin Vice-Presidents.
Arris and Gale Lecturer.—Grafton Elliot-Smith.
Erasmus Wilson Lecturer.—Samuel George Shattock.
Arnott Demonstrator.—Arthur Keith.
Hunterian Professors.—Arthur Keith, Frederick William Edridge-Green, Walter d'Este Emery, Kenneth Weldon Goadby, Benjamin Moore.

Next Council Meeting.

The next Council meeting will be on Monday, July 25th.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

King's Professorship of Medicine.

AT a special business meeting of the President and Fellows of the Royal College of Physicians of Ireland held on Friday, July 8th, the following resolution was unanimously adopted:

Resolved: That the College cannot permit Dr. J. Magee Finny to retire from the King's Professorship of the Practice of Medicine without expressing their warm sense of the zeal and ability with which Dr. Finny discharged the duties of the professorship, including that of physician to Sir Patrick Dun's Hospital, for a period of twenty-eight years.

Before the meeting concluded Dr. James Craig was elected King's Professor of the Practice of Medicine in succession to Dr. J. Magee Finny, resigned.

CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE (*Part IV: Practical Pharmacy*).—C. B. Alexander, H. P. Ashe, J. H. Baldwin, W. M. Binning, A. Bishara, H. G. B. Blackman, T. R. Bowen, E. Catford, W. L. Cockcroft, S. W. Coffin, A. G. W. Compton, E. S. Cuthbert, E. I. Davies, R. M. de Mowbray, C. K. G. Dick, W. A. Easton, D. T. Evans, L. E. Forster, J. W. Gilbert, H. C. Godding, F. C. Greig, H. J. Hacker, P. D. Hamilton, C. B. Hawthorne, C. L. Herklots, A. H. Hilmy, L. C. D. Irvine, R. B. Johnson, C. G. G. Keane, N. S. Koch, J. Lakeman, C. de C. W. Langdon, B. H. C. Lea-Wilson, C. C. Ling, P. A. Mackay, W. K. McKay, K. H. McMillan, L. A. Malik, R. C. Matson, C. C. Messiter, H. N. Morgan, R. S. Morshead, H. G. Moser, H. F. Overend, W. J. Paramore, G. M. Parker, H. Parker, M. G. Perera, S. V. P. Pill, T. B. B. Price, W. R. Pryn, B. Pyman, A. F. Rook, G. F. Rowcroft, H. A. Rowell, G. D. Shann, J. P. Shaw, F. R. B. Skrimshire, E. L. Spalding, T. S. Stafford, G. Stiell, F. Sykes, M. C. Thavara, E. M. Townsend, A. R. Upton, W. E. Wade, J. R. N. Warburton, G. W. Watson, G. H. D. Webb, E. P. W. Wedd, E. T. Willans, N. J. Willans, T. M. Wood-Robinson, E. J. Wright.
SECOND COLLEGE (*Anatomy and Physiology*).—C. W. Armstrong, E. R. Bailey, R. A. Banbury, B. Barnett, H. J. Bates, J. C. Bharucha, P. D. Bhiwandiwalla, S. I. Blairmann, W. H. Blakemore, R. C. Briscoe, M. H. Cane, E. R. Chambers, R. C. C. Clay, G. Cock, J. R. Davies, R. W. Davies, J. D. Driberg, W. J. I. Dwyer, R. S. Fawsett, G. Garland, A. O. Gray, D. M. Hanson, W. S. Herman, J. S. Higgs, F. T. Hill, J. I. F. Knight, J. L. Lauder, P. E. Lones, A. Lowndes, C. V. N. Lyne, G. N. Martin, G. S. Mather, J. Millard, W. Morris, H. H. P. Morton, F. H. Mosse, L. Page, J. R. Payne, J. A. Perera, A. S. Plant, F. P. Pocock, G. A. Pratt, S. J. S. Reid, I. Ridge-Jones, J. E. Rivera, A. E. Schokman, E. J. Staddon, T. J. Taunton, H. Topham, D. S. Twigg, A. S. Wakely, W. L. Webb, L. G. White.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—R. C. Marston, Edith M. Hewlett, J. R. C. Gordon, J. Gilchrist, G. L. Neil, J. Crawford, Amy B. R. A. Perriton, Madeline MacWilliam, W. L. Paterson, A. Crawford, J. A. Smith, G. Thomson, J. W. Cowie, J. Berry, J. Corcoran.
SECOND COLLEGE.—E. E. Owens, Amy B. R. A. Perriton, W. Bannatyne, W. Ashworth, J. G. Morrin, W. Laird, A. M. Robertson, A. S. Mackenzie, G. L. Clark.
THIRD COLLEGE.—D. W. Woodruff, G. W. Mason, F. W. Grant, A. L. Edwards, Padamji A. Dastoor, M. V. Walsh.
FINAL.—R. J. Helsby, Jane H. Filshill, K. Nath, A. D. C. Rob, J. A. Irwin, Z. A. De Cruz, J. Sullivan, T. Walsh, M. M. Daru, A. R. H. Harrison.

The Services.

ROYAL ARMY MEDICAL CORPS.

EXAMINATION FOR PROMOTION.

Home Stations, 1910.

THE following is the list of successful candidates at the May Examination for Promotion of Majors of the Royal Army Medical Corps in Technical Subjects:

Major H. E. WINTER, Sanitation and Epidemiology; already passed in (*d*) ii, in Army Medical Organization in Peace and War, and in Medical History, etc. Major F. W. HARDY, M.B., Army Medical Organization in Peace and War; .8; already passed in (*d*) ii, in Sanitation and Epidemiology, and in Medical History, etc. Major L. A. MITCHELL, M.B., Medical History, etc.; already passed in (*d*) ii, in Army Medical Organization in Peace and War, and in Sanitation and Epidemiology. Majors C. B. LAWSON, M.B., and H. W. H. O'REILLY, M.B., Sanitation and Epidemiology; already passed in (*d*) ii, in Army Medical Organization in Peace and War, and in Medical History, etc. Major G. S. MANSFIELD, M.B., (*d*) ii, and in Army Medical Organization in Peace and War; already passed in Sanitation and Epidemiology, and in Medical History, etc. Major C. W. PROFEIT, M.B., Technical Subjects; has yet to pass in (*d*) ii. Major G. E. F. STAMMERS, (*d*) ii; .75; has yet to pass in Technical Subjects. Majors M. MACG. RATTRAY, M.B., and J. MCD. MCCARTHY, M.B., (*d*) ii; have yet to pass in Technical Subjects. Capt A. L. SCOTT, (*d*) ii; .75; already passed in (*h*). Capt. F. ASHE, (*d*) ii; already passed in (*h*). Capts. L. W. HARRISON, M.B., C. C. CUMMING, M.B., and J. F. MARTIN, M.B., (*d*) ii; .75; already passed in (*h*). Capts. C. S. SMITH, M.B., and F. M. PARRY, M.B., (*d*) ii; already passed in (*h*). Capts. D. O. HYDE, M.B., and G. J. HOUGHTON, (*d*) ii; .75; already passed in (*h*). Capt. C. H. CARR, M.D., (*d*) ii; already passed in (*h*). Capt. F. W. LAMBELLE, M.B., (*d*) ii; .75; already passed in (*h*). Capt. H. ROGERS, M.B., (*d*) ii; already passed in (*h*). Capt. M. G. WINDER, (*d*) ii, .75; already passed in (*h*). Capt. S. E. LEWIS, M.B.,

(*d*) ii; has yet to pass in (*h*). Lieut. B. A. ODLUM, (*d*) ii, and in (*h*); has yet to pass in (*b*). Lieut. F. WORTHINGTON, M.B., (*h*) i and ii; has yet to pass in (*b*); already passed in (*d*) ii and (*h*) iii. Lieuts. D. S. BUIST, M.B., and A. M. POLLARD, (*d*) ii and in (*h*); have yet to pass in (*b*). Lieut. G. G. COLLET, M.B., (*h*); has yet to pass in (*b*) and (*d*) ii. Lieut. C. CLARKE, M.B., F.R.C.S., (*d*) ii and in (*h*); already passed in (*b*). Lieut. A. R. WRIGHT, M.B., (*d*) ii and in (*h*); .75 in (*d*) ii; has yet to pass in (*b*). Lieut. S. MCK. SAUNDERS, (*d*) ii and in (*h*); already passed in (*b*). Lieut. T. J. MITCHELL, M.B., (*d*) ii and in (*h*); .8 in (*h*); already passed in (*b*). Lieut. F. H. SOMERS-GARDNER, M.B., (*d*) ii and in (*h*); has yet to pass in (*b*). Lieuts. G. S. PARKINSON, H. GALL, and C. H. O'RORKE, M.B., (*d*) ii and in (*h*); already passed in (*b*). Lieut. J. STARTIN, (*d*) ii and in (*h*); has yet to pass in (*b*). Lieut. C. G. SHERLOCK, M.D. (*d*) ii; has yet to pass in (*b*) and in (*h*). Lieut H. H. LEESON, (*d*) ii; has yet to pass in (*h*); already passed in (*b*). Lieut. S. W. KYLE, M.B., (*d*) ii, and in (*h*); .8 in (*h*); already passed in (*b*). Lieut. J. W. LANE, M.D., (*d*) ii, and in (*h*); .75 in (*d*) ii; already passed in (*b*). Lieuts. W. G. WRIGHT, M.B., and A. T. J. MCCREERY, M.B., (*d*) ii, and in (*h*) ii and iii; have yet to pass in (*h*) i; already passed in (*b*).

N.B.—With reference to Army Order 216 of 1909, Majors of the Royal Army Medical Corps who have not fully qualified by December 31st, 1910, in Subjects i. ii, and iii of Appendix XIV, Part I (written), will, after that date, be required to pass an examination in Part II (Medical Staff Tour), in addition to any outstanding subject or subjects of Part I, in order to be considered fully qualified for promotion to the rank of Lieutenant-Colonel.

ROYAL ARMY MEDICAL CORPS (TERRITORIALS).

LOWLAND DIVISION FIELD AMBULANCES.

THE three field ambulances of the Lowland Division went into combined camp at Gailes on July 16th, under the command of Lieutenant-Colonel A. Dryden Moffat, M.D., Second Lowland Field Ambulance, Glasgow. The First Lowland, also from Glasgow, is under the command of Major Edington, and the Third Lowland, from Edinburgh, under Lieutenant-Colonel A. A. Ross. It was originally expected that these units would be encamped with other troops, but the Glasgow Brigades have this year been sent for annual training to Denny and Stirling, and no other troops but the medical units are on the training ground at Gailes. The total number of men is about 600. The usual field training will take place, but sections of the ambulances will be sent north next week to take part in the extensive manœuvres on both sides of the Firth of Forth.

Captain H. Ellis Rowell, Fifth Battalion Norfolk Regiment, at the recent examination held at Colchester passed (*d*), i, ii, iii, and iv, and is qualified for Symbol "Q" in the Army List.

GRANT OF AFRICA GENERAL SERVICE MEDAL.

AN Army Order just issued states that the King has been pleased to approve of the Africa General Service Medal, with clasp inscribed "West Africa, 1908," being granted to the forces employed in the undermentioned military operations, provided that the claims of the officers and soldiers are approved by the Army Council. The medal and clasp will be granted to all officers and men of the forces under the command of Lieutenant-Colonel G. F. A. Whitlock, Royal Engineers, Chief Commissioner Anglo-German Boundary Commission; Captain C. E. Heathcote, the King's Own (Yorkshire Light Infantry), Commanding Anglo-German Boundary Commission Escort; and Lieutenant (now Captain) H. L. Homan, Middlesex Regiment, respectively, who took part in the fighting in and near the Sonkwala Valley on December 11th, 1908, and between December 24th and 31st, 1908, both dates inclusive. Those already in possession of the Africa General Service Medal will receive the clasp only. The grant to officers of the Regular and Auxiliary Forces will be confined to those who had official sanction to be present.

HEALTH OF OUR EUROPEAN ARMY IN INDIA.

To those officers of the Army Medical Service who in former years by their constant plaint for organized sanitary effort in the army were as prophets preaching in the wilderness, it must be gratifying to see the results of the enlightened policy which evidently animates the military administration in India in the present day. In a circular just issued by the Commander-in-Chief attention is drawn to the notable reduction in disease prevalence, mortality, and invaliding in the European army of India. The facts show a progressive and very marked diminution both in the total number of cases coming under treatment and the deaths from all causes, as well as from the chief preventable diseases to which the soldier is liable. Thus among British troops we find the death-rate per 1,000 in 1909 was only 6.23 as compared with 9.1 in 1908 and 17.18 in the decade 1894-1903; similarly the number of men constantly sick has been reduced from 5,374 in the same period to 2,879 for last year. These two sets of figures mean a saving of some 600 lives annually and an addition to the fighting strength of the British garrison of about 2,400 men. Enteric fever between 1894-1903 caused, on an average, 1,476 attacks and 380 deaths yearly; in 1909 there were only 636 cases with 113 deaths. Similarly the amount of dysentery has been reduced to one-half, of malaria to two-thirds, and of "specific" diseases to one-fifth. In corroboration of these facts we find that the number of invalids sent home has fallen considerably; thus, as compared with five years ago, the number of officers invalided has dropped from 119 to 40, of women and children from 276 to 50, of non-commissioned officers and men from 2,105 to 534, and of insanes from 75 to 50.

These facts are eminently encouraging, and must be reassuring to all those who have relatives among the officers and men of the British garrison. If we seek for causes which have led to this remarkable amelioration in the sanitary state of the European army in India, we must give foremost place to the whole hearted acceptation by all ranks of the principles of wholesome living in wholesome surroundings, so long urged by those whose technical knowledge made it clear that radical changes were necessary. In no sphere of activity do we note greater changes for the general good than in the condition of barracks and lines, where the rigid enforcement of a wet conservancy system has revolutionized sanitary effort; also, there is evidence of improved cantonment administration, and indirectly much of the present good health of British troops must be credited to the sustained co-operation which is manifest between commanding officers, medical officers, and the cantonment magistrates. The figures we have quoted not only warrant the anticipation that the high standard now attained will be improved upon, but prove that it is not too sanguine to hope for even better returns. The figures for last year relating to the Indian Army are not yet available, but we have reasons to believe that in that important branch the effects of better knowledge and wider activities in the direction of sanitary effort will show corresponding reductions in both disease incidence and mortality.

Public Health

AND

POOR LAW MEDICAL SERVICES.

METROPOLITAN ASYLUMS BOARD HOSPITALS.

THE Metropolitan Asylums Board, at their meeting on July 16th, adopted, after a brief discussion, recommendations in regard to a change of their hospital system, brought forward by the General Purposes Committee as the result of a report made by Sir Arthur Downes for the Local Government Board. Briefly stated, the matter under consideration was whether the large margin of unoccupied beds which frequently exists in the fever and small-pox hospitals could be beneficially used for providing for additional classes of patients, and for meeting the growing demands on other departments, such as those for children and imbeciles. There was an alternative proposal to close some of the fever hospitals at slack times, but this was not recommended, as it would mean the dismissal of trained officers whom it might be impossible to get together again when required. A subcommittee, which had gone exhaustively into the matter, were responsible for the recommendations in question, the most important of which was that the Local Government Board be informed that the managers are willing to arrange for the reception, tentatively, of measles and other approved diseases in their fever hospitals, provided the Local Government Board can empower them to admit selected cases from the poorer classes for which no accommodation is now available. This last part of the recommendation was due to the report of Dr. Cuff, the medical officer for general purposes, who states that there is adequate accommodation in the metropolitan workhouse infirmaries for pauper cases of measles; what is wanted is accommodation for cases from the poorer classes, not necessarily paupers. As to the feasibility of treating measles and whooping-cough in the same hospital with other infectious fevers, Dr. Cuff states that in his opinion this can be done without any risk of interchange of infection between the different wards. He reports: "The danger to diphtheria patients is at least as great now from scarlet fever as it would be from measles or whooping-cough. Such, at any rate, is the experience of those fever hospitals in the provinces and in Scotland which admit all these diseases. Dr. Ker, of the City Hospital, Edinburgh, where over 1,000 cases of measles were treated last year, writes: 'Measles is never carried by the staff.' Dr. Rundle, of the City Hospital, Liverpool, says: 'We have had under treatment here probably a thousand cases of measles, and I have never known the disease to be carried to other wards. I am convinced that measles is almost entirely a personal infection, and that the third factor does not exist.' With whooping-cough there is no risk at all." Dr. Cuff adds that he considers the measures of disinfection required would be simple and inexpensive, while apparently the only alteration in the internal arrangements of the hospitals would be the allocation of separate receiving rooms.

The Asylums Board also adopted the committee's recommendation to make arrangements for the reception of certified cases of puerperal fever in their hospitals. The committee state they are advised that cases of puerperal fever can be safely admitted to the same hospital with other infectious diseases, and are in some hospitals treated in the same wards as cases of enteric fever, while there is no difficulty in the way of receiving non-pauper cases. They state that the weight of testimony is that the reception of these cases into hospitals would be advantageous to the patients themselves and remove a possible source of danger to others. On the subject of treating pulmonary tuberculosis the committee say they agree with Sir A. Downes, who had stated that in his view the Asylums Board had no spare accommodation which could without serious difficulties be turned over to this class of case, either in the early or advanced stages.

Long Reach Hospital and the shore buildings adjacent to it are to be permanently reserved for small-pox cases, and the additional accommodation for small-pox at the Joyce Green and Orchard Hospitals is to be done away with. The committee say that experience has so fully established the fact that high numbers of small-pox correspond with low numbers of scarlet fever and vice versa that it is safe to make use of this additional small-pox accommodation for fever purposes whenever the numbers under treatment so require. The Park Hospital is to be reserved for sick and debilitated children. This was the only point on which discussion arose at Saturday's meeting, some members holding that the Brook Hospital was more suitable for this purpose. An amendment to substitute the Brook for the Park was, however, lost by twenty votes to fifteen. A member remarked that flowers grew well in the Park Hospital grounds, and a doctor had told him that where flowers flourished children would thrive.

In an appendix to the committee's report, Dr. Cuff deals with a suggestion made by Sir Arthur Downes that the length of stay in hospital by scarlet fever patients might be shortened. Dr. Cuff points out that during the last three years the average length of stay of scarlet fever patients in the Board's hospitals has been 63 days, and compares as follows with other large hospitals: Leeds City Hospital, 63 days; Liverpool City Hospital, 49 to 56 days; Belvedere Hospital, Glasgow, 55.3 days; Ruchill Hospital, Glasgow, 54.4 days; Edinburgh City Hospital, 48.6 days; Monsall Fever Hospital, 56 days. At some of the smaller hospitals the period of detention is much less, and at Southampton during the last six years has averaged only 30 days, while the "return" case-rate was only 1.9 per cent., which is much lower than the same rate for the Asylums Board's hospitals. No recommendation on this matter was, however, brought up by the committee.

As to the isolation of measles and whooping-cough in hospital, Dr. Cuff says it is impossible not to believe that it must result in a great saving of life, and he quotes Dr. Ker, of the City Hospital, Edinburgh, who is confident that it is justified as a means of saving the lives of the poor. In accordance with the desire of the subcommittee, Dr. Cuff addressed a circular letter on the subject to the medical officers of health of 21 of the largest towns in England and Scotland. Of the replies he received in time for use in the report, 13 were in favour of isolation and 5 against. Of these 5, only one, Dr. Tattersall of Salford, had seen the isolation of measles practised for a time and abandoned on account of its spreading to wards occupied by other diseases.

Medico-Legal.

ALLEGED FRAUD ON A HOSPITAL.

IN a case heard by Mr. Hutton at Clerkenwell on June 25th, it appeared that John Levison, a cabinet maker, was charged on remand with unlawfully and knowingly, by means of certain false pretences, obtaining medical care and attention from the Governors of the Royal Free Hospital, with intent to cheat and defraud. On June 13th Dr. Harold Coombs received a telephone message, and afterwards the prisoner came bringing a letter. He was admitted to the hospital as a patient, and was examined on the following day. He complained that he had had an accident, and was suffering from headache, dizziness, deafness, and double vision. He remained in the care of the hospital until Thursday. In the doctor's view there was nothing the matter with the man. A detective stated that the prisoner had been in and out of hospitals for the past three years under false pretences. There was nothing the matter with him. Those hospitals, however, were not prosecuting. Mr. Hutton held that there was not sufficient evidence to convict the prisoner, and discharged him.

WORKMEN'S COMPENSATION CASES.

A Victim of the Compensation Act.

THAT the Workmen's Compensation Act occasionally presses hard on deserving poor folk was made plain at the meeting of the Gainsborough Urban Council (June 17th). Mr. Judson, Chairman of the Finance Committee, pointed out that some difficulty had arisen in consequence of the refusal of an insurance company to take any risk in respect of a workman who was subject to illness. They were attempting to get another company to cover the man, but, if that company would not do so, the Finance Committee did not care to take the risk. The man and his family were quite willing to take the risk of accident, but this they were not permitted to do; and unless the committee could cover the man by insurance, he was afraid they had no option but to discharge him, and he would be a victim of the Compensation Act.

Capacity of a One-eyed Man.

The different county court judges appear to take different views of the capacity of the one-eyed man to work at his trade. In a case at Stourbridge, a man who worked for a firm of anvil makers lost the sight of one eye, and claimed compensation as for total incapacity. The judge held that with practice the man could swing a hammer, and that as he could judge colours as well as a man with two eyes, his capacity was not diminished by the accident. In another case, which was heard at Workington, the county court judge held that a one-eyed blacksmith could never be regarded as entirely recovered, and made an award of £1 a week.

A False Claim.

A case at Chesterfield shows how careful the practitioner should be in dealing with the claimant for compensation who alleges that his eyesight has been impaired. A man claimed to have lost the sight of one eye. A doctor who was called on behalf of the employer said that when he endeavoured to examine the eye the claimant made it almost impossible. At one part of the interview the sun came in at the corridor, and he noticed that the applicant screwed up his right eye. Asked why he did this, the victim of accident said he could not bear the light! After this evidence the county court judge found for the employer.

WORKMEN'S COMPENSATION ACT.

"LEX" writes that, in a case under the Workmen's Compensation Act, in which he certified disablement of the workman, the matter was referred to a medical referee, who disagreed with his opinion. On the case being appealed to the county court, the medical referee called by the judge agreed with our correspondent's diagnosis. He wishes to know from what date the workman is entitled to receive compensation.

*** The workman is entitled to receive compensation from the date of the disablement.

BONDS BETWEEN ASSISTANT AND PRINCIPAL.

DOMINIC writes that he is engaging an assistant, and wishes to know whether there are any suitable printed forms to be had for drawing up bonds between assistant and principal.

*** We do not know of any printed forms for this purpose, but Barnard and Stocker's book on *Medical Partnerships* gives some excellent examples of such forms.

FEES FOR MEDICAL EVIDENCE.

SOLUS writes that he has received a subpoena to give evidence in a civil case at the forthcoming assizes. He asks: (1) What fee ought to be paid him, as he lives three miles from the assize town? (2) Can he demand his fees before being sworn?

*** (1) One guinea a day, with mileage threepence a mile each way. (2) A witness may ask for security that his legal fees shall be paid before being sworn, but not after.

HERNIA AND COMPENSATION.

M.D. asks for opinions on the following: He has recently given evidence in a county court on behalf of a labourer who had been admittedly ruptured in the service of a railway company and was seeking compensation. He gave it as his opinion that no one should do heavy manual labour when ruptured, even though he had a truss; that such a man lived in perpetual menace of strangulation with its manifold dangers; that there should be a radical cure or no hard labour. He disapproves of the evidence of a professional brother on the other side, "That a well-fitting truss was perfectly secure. That no amount of heavy work would bring down the hernial contents."

*** There is no doubt some difference of opinion in the profession on this subject, but it is very generally held that a man with a well-fitting truss is as well able to do manual labour, and with as little risk, as one unruptured.

MIDWIFERY PRACTICE BY PARISH NURSES.

A MEDICAL PRACTITIONER OF THIRTY YEARS' STANDING complains that "partly trained parish nurses" are taking almost all the midwifery cases out of the hands of medical men, are allowed in extreme cases to introduce their hand into the uterus, are undertaking minor surgery, and carrying about with them and administering drugs, and that they defend themselves by asking who else is to do it if the patients refuse to have a doctor.

*** All this is, of course, unqualified practice of the worst sort, some of which, unfortunately, cannot be prevented at present by any legal process. There is nothing to compel any person to have a doctor and nothing to prevent unqualified persons medically treating any one who desires it, except the risk of action for damages and even of charge of manslaughter if a patient dies, when the fact of being unqualified would tell seriously against them. In the case of midwifery, however, since April 1st of the present year it has been distinctly illegal for any one not a qualified medical practitioner and not a trained and certified midwife "to attend women in childbirth habitually and for gain," and breach of this law renders one liable to a fine not over £10. "Partly trained parish nurses" would certainly come under this law, and a complaint sent to the Local Supervising Authority or to the Central Midwives Board would receive attention. A certified midwife is bound in certain conditions to advise that a doctor be called in, but if the patient refuses, "the midwife will not incur any legal liability by remaining on duty and doing her best for her

patient." As for administering drugs, a midwife is bound to note in her Register of Cases "each occasion of administering any drug other than a simple aperient, the dose, and the time and cause of its administration" (Rules of Central Midwives Board). The question of medical treatment by district nurses has received much attention by the District Nurses and Midwives Subcommittee of the Medico-Political Committee, which has drawn up model rules for nursing associations. These have been provisionally agreed to by the Queen Victoria Jubilee Institute for Nurses, to which many local nursing associations are affiliated, and they are to be considered by the Representative Meeting. They strongly discountenance anything in the way of medical or surgical treatment by nurses beyond first aid in emergencies, and any breach of these rules by nurses belonging to the institute would be severely dealt with. In the case of parish nurses going beyond their proper sphere, representations made to the board of guardians by the local Division have on several occasions proved effective in preventing them undertaking medical and surgical work, while, as stated above, for irregular midwifery severe penalties can be enforced.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

SUPERSESSION.

J. TURTON.—We should advise "A." to speak to "C." on the subject.

ADDRESSES IN MEDICAL DIRECTORY.

J. H. B.—It is quite usual for practitioners to put two addresses in the *Medical Directory*, and we cannot see that there is any ethical objection to the practice.

THE COURTESY CALL.

DUBIUS.—The etiquette of the profession is for the newcomer to call upon those already established in practice in the place. In large towns it is usual to call only upon those within a certain radius of the newcomer's house.

UNQUALIFIED DISPENSERS IN HOSPITAL.

R. H. F. R.—The staff should draw the attention of the committee to the disadvantages and possible dangers of employing an unqualified dispenser in the hospital, and suggest that the present holder of the office should be allowed a reasonable time in which to obtain a dispenser's qualification, or resign.

ELECTION OF MEDICAL OFFICERS OF HEALTH.

FAIRPLAY.—Whatever connexion there may have been between the letters, there was no connexion between the answers to which our correspondent refers, as they were contributed by different referees. The answer to "Enquirer" deals only with the general proposition, and by recommending that the case should be brought before the local Division of the Association suggests the investigation which our correspondent asks for.

Obituary.

JOHN BART ROUS, M.B., B.S.LOND.,

LONDON.

WE record with deep regret the death on July 11th of Dr. Rous of Ealing and the editorial staff of our contemporary the *Lancet*. It took place suddenly at Westgate-on-Sea, where he had been staying for some little time in the hope of staving off a nervous breakdown.

Dr. Rous was a popular and very loyal old student of St. Mary's Hospital, where he became M.R.C.S., L.R.C.P. in 1903, and two years later graduated M.B., B.S. at London University taking honours in medicine. Meantime he had held office as House-Physician at his own hospital, as House-Surgeon at the East Sussex Hospital, and as Resident Medical Officer at Hampstead Hospital just before the apotheosis of the small but very efficient original undertaking on the East Heath into the present ambitious institution on Haverstock Hill. Since then he had been engaged solely in literary work.

John Bart Rous was young as a medical man and younger still as a journalist; but even if he had not been, as he was, a singularly agreeable companion and a pleasant straightforward colleague, it would be impossible not to regard his early death with something more than the degree of regret usually experienced on such occasions.

He was one of a band of men whose very limited number is kept up with difficulty, and none of whom can fall out of the ranks without definite loss to the medical profession. Of men who with excellent general or special knowledge combine some degree of journalistic instinct and a capacity for writing pleasant English, there are plenty, but of those who to such qualities have added the strenuous training essential to the taking of a responsible part in the conduct of a newspaper, the number is much smaller. In this respect the general newspaper world is perhaps fairly well off, but it is otherwise in the narrower field of medical journalism. Few men who have gained a qualification in medicine, and some experience of its practice, are disposed to go to school again for two or three years, and learn a new profession.

Bart Rous was one of the exceptions, and having completed an apprenticeship under excellent masters, was well fitted to fill a responsible post on a medical journal with credit to himself and benefit to the profession, whenever occasion should demand. His death, therefore, is a real loss to every one.

AFTER an illness of some years' duration which had necessitated his being invalided from the medical service of the navy, MOYLE BRETON, Surgeon, R.N., on the retired list, died on July 16th at a nursing home in Guildford at the comparatively early age of 41. He received his medical education at St. George's Hospital, and was a distinguished athlete, being especially proficient in putting the weight. He was also a champion pistol shot at Bisley. His long illness, which must have been extremely trying to a man of such an active physique, was borne without a murmur.

DR. ALFRED BENTLEY SIGISMUND POWELL, of Southbourne, Hampshire, and of the West African Medical Staff, died while on duty at Forcados from an attack, apparently, of yellow fever. Dr. Powell, who was the eldest son of the Rev. F. G. Montagu Powell, of Foxlease, Southbourne, was educated at the University of Edinburgh, and became L.R.C.P. and S. in 1898. Subsequently he held a number of appointments at various institutions, including the Morningside Asylum, Edinburgh, and the District Asylum, Inverness, at both of which he was Assistant Physician, and at Edinburgh City Hospital, where he was Resident Physician. Later on he fulfilled a corresponding office at a private asylum in Roehampton, and then went to South Africa, where he worked as Assistant at the Grahamstown Asylum, and as Resident Medical Officer at the Native Location at Port Elizabeth. His tenure of office as a Medical Officer of the West African Medical Staff had been comparatively brief.

INSPECTOR-GENERAL ROBERT GRANT, C.B., M.B., R.N. (retired), died at Ballindalloch, Banffshire, on July 14th at the age of 68. He was a son of the late Robert Grant, of Blairnamarrow, Banffshire, was educated at Aberdeen University, and entered the Royal Navy as Surgeon, May 7th, 1868; became Staff Surgeon, June 7th, 1879; Fleet Surgeon, April 29th, 1888; Deputy Inspector-General, April 10th, 1897; and Inspector-General, May 23rd, 1901; retiring from the service in August, 1902. He served with the 88th Regiment during the Kaffir war in 1877, and specially promoted for services when in charge of small-pox patients of *Boadicea*, 1879. During the Zulu war he accompanied the Naval Brigade to Port Durnford (mentioned in dispatches, medal); Staff Surgeon of *Orion* during Egyptian war, 1882 (medal, Khedive's bronze star), and during the operations in the Eastern Soudan, 1884, and was present in the action at Tamanieb (mentioned in dispatches for his admirable arrangements for the sick and wounded, clasp). He was appointed C.B. (Civil), June 26th, 1902; was J.P. for Banff; and Deputy Lieutenant for Banff, 1908.

YET another Indian Mutiny veteran has passed away in the person of Colonel LESLIE OGILBY PATTERSON, who died recently in London. He was a son of the late Dr. James Patterson, of Melbourne, Australia, and qualified as a member of the Royal College of Surgeons of England in 1851. He entered the Army Medical Service as an

Assistant Surgeon in June, 1854, retiring in 1880 with the honorary rank of Brigade Surgeon. He had medical charge of a field force in Burma in 1856, being present in six engagements. He also served in India during the Mutiny in 1857–8, had medical charge of the Arrah Field Force from June to October, 1858, and was present in actions at Sirthooa (where he was wounded), Julpoora, Brahminagunge, Rampore, Perowra, Jumaon, Karrisath, and Jugdespore. He volunteered to overtake Sir Henry Havelock and take medical charge of his cavalry, and was present with them at the action of Neemadee, and again with the field force in the last action at Mahoolan and in various minor engagements. He was three times mentioned in dispatches, and received the Mutiny medal.

Medical News.

A MEETING has been convened at Caxton Hall on Wednesday, July 27th, by a number of medical men who are in general sympathy with the scheme of the Minority Report of the Poor Law Commission. A reception will be held at 4 p.m., when tea will be served. At 4.30 p.m. Mr. and Mrs. Sidney Webb will address the meeting. Discussion and questions will be welcomed. The chair will be taken by Dr. Herbert Manley, who will be supported by Dr. Christopher Addison, M.P., Dr. Dudley Buxton, and others. Invitations will be issued to all those attending the Annual Meeting of the British Medical Association.

A HOSPITAL entirely devoted to cancer and nervous diseases is to be established in Philadelphia.

THE Astley Cooper Prize for 1910 has been awarded to Professor E. H. Starling, F.R.S., for an essay upon the physiology of digestion, gastric and intestinal.

WE are informed that the Board of Education has approved the Wandsworth scheme for the treatment of school children found on medical inspection to be defective.

MR. ROBERT BRUDENELL CARTER, Knight of Justice, Deputy-Chairman of the British Ophthalmic Hospital, Jerusalem (a foundation of the Order), and formerly its Honorary Consulting Surgeon, has been appointed an Honorary Commander of the Order of the Hospital of St. John of Jerusalem in England.

ON Friday, July 29th, at the Central London Throat and Ear Hospital, Gray's Inn Road, from 3 to 5 p.m., there will be an exhibition of microscopical specimens pertaining to the throat, nose, and ear, and also a demonstration of interesting cases. The medical staff extend a cordial invitation to members of the Association to be present.

THE title of the Women's National Health Association of Great Britain has been altered to the Women's Imperial Health Association of Great Britain. The President is Muriel, Viscountess Helmsley. All information regarding the work of this Association can be obtained at the office, 3, Princes Street, Hanover Square, W.

A NEW institute for medical research, bearing the name of the Otho S. A. Sprague Memorial Institute for the Scientific Investigation of the Causes of Disease has been established in Chicago. Provision for establishing the institute was made in the will of O. S. A. Sprague, a Chicago merchant, who died last year. It has an immediate endowment of £200,000.

AT the Surrey Assizes on July 11th the grand jury threw out a bill of manslaughter against Surgeon-Major E. Farmar-Bringhurst, late of the Army Medical Staff. When charged subsequently under a coroner's warrant, the Chief Justice directed the jury to return a verdict of not guilty, saying that there was no evidence which would justify the defendant being put on his trial.

ARRANGEMENTS have been made at the Royal Dental Hospital for a series of six post-graduate lectures during the autumn. The first will be given at 6 p.m. on October 18th, and the rest on succeeding Tuesdays at the same hour. The lectures are free to internal students of London University and to past and present students of the hospital; to others the fee is two guineas.

THE gold medal offered for competition in connexion with the International Congress on Ophthalmology at Naples last year has been carried off by an English competitor, Dr. Thomson Henderson, of Nottingham. The prize was for the best essay on the subject of glaucoma. Dr. Henderson's paper was entitled, "The Rationale of Iridectomy in the Treatment of Glaucoma: an Anatomical, Physiological, and Pathological Research." Dr. Henderson's success will be especially welcomed by those who heard or read the papers on the same subject presented by him to the Section of Ophthalmology at Sheffield and Exeter.

DR. J. R. LUNN, the well-known Medical Superintendent of St. Marylebone Infirmary, was the recipient on July 6th of an inscribed chiming clock and a silver inkstand, presented to him by past and present members of the staff of the infirmary, and a few friends. Dr. Lunn has been associated with the infirmary since the day of its opening nearly thirty years ago, and his recent retirement is the subject of very general regret.

A SERIES of demonstrations on certain medical subjects are to be given at the London Hospital, at 2 p.m. on each week day, other than Saturday, from August 8th until the end of September. On Mondays the subject will be diseases of the lungs; on Tuesdays, those of the kidneys; on Wednesdays, children's diseases and those of the digestive system; on Thursdays, diseases of the nervous system; and on Fridays, those of the heart and vessels. The demonstrations are free to members of the medical profession on presentation of their card.

FROM an advance programme relating to the entertainment of members of the British Medical Association by the Corporation of the City of Bath next Saturday, July 30th, we gather that the arrangements in view include an expedition to the Cheddar Caves and Cliffs on Sunday. These caverns are famous for the variety and colour of their stalagmites. Those who take advantage of the special terms offered by the leading hotels for the week-end should give notice on registering and they will then be given a week-end ticket, travelling down by the special train which the Corporation has provided for the transport of its guests from and to London, and returning by any train they please on Monday.

THE foundation stone of the building to be erected as an annexe to the Middlesex Hospital and as an institution for cancer treatment and research, was laid by Prince Francis of Teck at a semi-private ceremony on July 14th. The cost of building, furnishing, and endowment, are to be met by the trustees of the late Henry Barnato, who left £250,000 for the erection of a memorial of some medical character to his brother Barnett Barnato and his nephew Woolf Joel. The building will have a frontage of 90 ft. in Nassau Street, and, in addition to other accommodation for various purposes, will provide two twenty-bed wards, and an out-patient department with a number of special treatment rooms and seating accommodation in the waiting hall for about 115 persons. Prince Francis of Teck stated that Her Majesty Queen Mary, who was to have laid the foundation stone, had promised to open the building on its completion next year.

AN open meeting of the Medical Library Association of Great Britain and Ireland will be held in the Mechanical Lecture Theatre (Old School of Science), South Kensington, on Wednesday and Thursday, July 27th and 28th, at 9 a.m. On Wednesday the president, Professor Osler, will deliver an address, and Mr. Victor G. Plarr will read a paper on the Catalogue of the Royal College of Surgeons of England, of which he is librarian. On the Thursday the following papers will be read: Mr. C. R. Hewitt, librarian, Royal Society of Medicine, on the Organization of a Medical Library; Mr. H. M. Barlow, assistant librarian, Royal College of Physicians in London, on the Medical Library Association — a few Observations; Mr. A. L. Clarke, assistant editor and cataloguer, Royal Society of Medicine, on Abstracts and Extracts in General and Professional Literature. An exhibition of rare and interesting books, papers relating to medical libraries, etc., will be held from Wednesday, July 27th, until Friday, July 29th.

A QUARTERLY court of the Society for Relief of Widows and Orphans of Medical Men was held on July 15th, Dr. Blandford, President, in the chair. Twenty directors were present. Four medical men were elected members of the society. The sum of £1,350 10s. was voted for the payment of the half-yearly grants to the annuitants of the charity. A widow of one of the members applied for relief; her husband had paid in subscriptions £21, and left his widow with an income of £20 per annum. The court voted that a grant at the rate of £50 per annum be made. Membership of the society is open to any registered medical practitioner who at the time of his election is resident within a twenty-mile radius of Charing Cross. The annual subscription is two guineas, but a member may become a life member by paying one sum, the amount of which is fixed by the by-laws of the society. The next election will be on October 12th, and application forms must reach the Secretary on or before September 21st. The invested moneys of the society now amount to £100,550. Full particulars and application forms for membership may be obtained from the Secretary at the offices of the society, 11, Chandos Street, Cavendish Square, W.

Letters, Notes, and Answers.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. COLIN CAMPBELL (Southport) writes: Can any of your readers very kindly inform me where I can obtain a goat in kid?

F. C. would be glad of information as to method of using ethylate of soda in facial naevus. Should it be painted on, or applied on cotton-wool and pressed on? What area can be done at once, and how often? etc. Inquirer can find no description of method in the ordinary textbooks.

ANSWERS.

FEES FOR AMBULANCE LECTURES.

H. B.—The London County Council pays for ambulance lectures one guinea a lecture of one and a half hours (including practical work of bandaging, etc.). This seems a reasonable payment, and has been adopted by other county councils.

INCOME TAX SCHEDULE A.

D. F.—The income tax Schedule A is charged on the house, and is payable whatever be the conditions of letting or of occupation. In the case in question the best course would be for our correspondent to ask the collector to apply to the clerk to the council or body owning the house. In the event of payment being refused there will be no alternative but for our correspondent to pay, inasmuch as the collector's remedy in default of non-payment is by distraint on the premises. The question whether in the last resource an action would lie against the employers for breach of contract is a matter that depends entirely on the precise terms of the agreement.

INCOME TAX.

TAX inquires whether in the event of his receiving a sum of £500 at the age of 60 as the result of an endowment assurance with a life assurance company, he will be required to return the amount for assessment to income tax.

*** No; the sum does not represent income, and is not chargeable with income tax. On the other hand, the annual payments made as premium on the policy are proper deductions to be claimed under the head of "life assurance premiums" on the income tax form.

REBATE OF PETROL DUTY.

W. MCC. states that he has claimed repayment of petrol duty at 3*l*. in the £1 on petrol used before January 1st, 1910, and has been informed by the local officer of excise that only one-half is due.

*** If our correspondent is able to certify that the motor spirit has been used for the purpose of supplying motor power to a car kept by him while being used for the purpose of his profession, and is able to furnish the necessary vouchers from the person supplying the spirit to prove that the full duty has been paid, it is clear that he is entitled to repayment of the whole amount of duty paid on the spirit, so far as it has been used before January 1st, 1910. The officer of customs and excise should be referred to Sec. 85 (2) of the Finance (1909-10) Act, 1910.

THE DRUG HABIT: TOBACCO.

DR. N. A. BUTTERFIELD (Knoxwood, Harding, Natal, S.A.) writes in reply to "M. Y. S." (BRITISH MEDICAL JOURNAL, April 30th, p. 1091): (1) Let him take "soured milk" (South African name is "Maas") as recommended to "L. O. S." on same page of BRITISH MEDICAL JOURNAL, April 30th. It is a grand physic, in shape of food, for "neurasthenia," and both a bowel and systemic cleanser. I have ten years' experience of it, personally and professionally. (2) A daily, good, healthy action of the bowel is absolutely essential—a mercurial at bedtime and saline in the morning, only "si opus sit" very occasionally. If bowel does not act, and aperient not needed, a glycerine enema is the thing. The last portion of bowel failing in sluggish liver, bowel neurasthenia, they go together, and, starting the rectum, the rest follows. It is "wheels within wheels." (3) Smoke a pipe—clean, medium strength tobacco—in moderation, not at all times of day and night. Do not inhale; do not smoke cigarettes; and do not suck a pipe on an empty stomach. He must know that tobacco is a potent depressor of the sympathetic nervous system, with all its train of symptoms from the effects of abuse and indiscretion—neurasthenia, depression, loss of power, restlessness, insomnia—accumulation of morbid products, etc., all the cause and effect—and must first study the cause. (4) Warm bath at night. (5) Fresh air and regular exercise are all called for. (6) R. Combination of belladonna, henbane, and xanthoxylum (prickly ash)—an American drug.

CIGARETTE SMOKE INHALATION.

DR. CHAS. LLOYD TUCKEY (London, W.) writes: In answer to "A. B. B.," I have found hypnotic suggestion efficacious in curing the cigarette habit in several cases. The most recent case is that of a well-known authoress, who could only compose and write when smoking or inhaling. The association habit was corrected in three or four sittings. In each case the patient wished for a cure but was quite unable to effect it unaided.

CLIMATE FOR LATENT PHTHISIS.

M.D. writes: "Transvaaler, whose patient suffers from latent phthisis and from constipation, would probably be wise in selecting, as a place of residence, some place on the S. or S.W. coast, avoiding (1) a place frequented by tuberculous patients, (2) a place where the drinking water is drawn from the chalk.

E. S. writes: I may mention that I have suffered from "apical phthisis" for many years. Have spent several years near the border of the Orange River Colony, S.A.; and after testing different parts of Scotland and the South Coast find the downs at the north of Brighton most beneficial, particularly the neighbourhood of Withdean; best altitude here is 300 to 400 ft. above sea level. My age is 43.

ELECTRICAL TREATMENT FOR DUODENAL ULCER.

DR. W. F. SOMERVILLE (Glasgow) writes in reply to "M D.Lond.'s" query about electrical treatment of duodenal ulcer, which appeared in the JOURNAL of July 16th: It is well known that high-frequency currents have a curative effect over superficial ulcers. In the BRITISH MEDICAL JOURNAL of February 4th, 1905, I published notes of a case of scrofulous ulcers of the legs (Bazin's malady) permanently cured by high-frequency currents, where all the usual remedies had previously failed—for example, rest in bed for more than two months, malt and cod-liver oil, etc., internally, while, in addition to scraping of the ulcers, a great variety of dressings had been employed externally without beneficial results. It is also known that sinuses that refuse to heal will close up satisfactorily when treated by high-frequency currents through a water-cooled glass electrode. Further, it has frequently been found that by means of an electrode applied to the tongue and another introduced into the rectum, these currents can be passed from mouth to anus with healing effect in cases of mucous colitis. It is reasonable, therefore, to infer that duodenal ulcers may heal if treated by this painless and safe method. Only a qualified medical expert should be entrusted with the carrying out of the treatment.

LETTERS, NOTES, ETC.

THE BRUSSELS GRADUATES' ASSOCIATION.

WITH reference to the note on this subject published last week, we are informed that those who proceed to Brussels on August 5th for the annual meeting of the association will arrive in time for the International Congress of Forensic Medicine, which, as already stated in the JOURNAL, will be held there from August 4th to 10th. Full information can be obtained on application to the Secretary, Dr. Arthur Haydon, 23, Henrietta Street, Cavendish Square.

GOITRE IN MOTHER AND CHILD.

DR. HOWARD G. PESEL (Thornton-le-Dale, near Pickering) writes: During the last month I was called to attend a girl of 18 in her first confinement. The first thing noticeable on entering the room was that the patient was slightly chronically obstructed in her breathing by a goitre with marked right, left, and middle lobe, causing a mild degree of stridor and bronchial expectoration. Goitres are by no means uncommon in this limestone district of Yorkshire. The labour was accomplished without much difficulty. On examining the newborn infant I noticed that it also had a well-marked goitre, with similar lobar enlargement to that of the mother. At my last visit the goitre of the child seemed less prominent; it was, of course, very plainly visible.

ANATOMY HOOKS.

A STUDENT of the Hong Kong Medical College has forwarded us a sketch of an appliance which he and some of his fellows are now using in place of the triple hook commonly supplied in cases of dissecting instruments. He points out that this triple hook is a dangerous appliance, and that there can be hardly a student but has anchored himself unwittingly at

some time or other by its means. The substituted appliance is a single hook attached to a chain about 30 in. long, at the extremity of which is a weight of about ½ lb. This hook is attached to the part of the subject to be tightened, and the weight hanging over the edge of the table secures the necessary tension. The idea seems sound; we are, therefore, happy to give it publicity. So far as we have been able to ascertain, such a hook is nowhere in use in this country.

THE INCOME OF MEDICAL PRACTITIONERS.

DR. C. STENNETT REDMOND (Tottenham) writes: A correspondent in a recent issue of the JOURNAL traversed the accuracy of the statement made by a writer in a previous issue, that the average income of the general practitioner was estimated at £200 to £250 per annum, and asked for the authority on which it was made. This I am now able to give from p. 14 of *Res Medica, Res Publica*, by William Ewart, M.D., being the inaugural address delivered by him at St. George's Hospital on October 1st, 1907, on "The Profession of Medicine: its Future Work and Wage." "Let me quote from the BRITISH MEDICAL JOURNAL of September 7th and 14th: 'The average income of the British practitioner has been variously estimated at £200 to £250 a year.' The chances of being able to save even to the extent of the return of the capital expended on education are, in a large proportion of cases, slight, while reasonable provision for old age, after family expenses are met, is difficult, and too often impossible."

ST. PAUL'S "THORN IN THE FLESH."

DR. F. D. WELCH (London) writes: As I am both a medical practitioner and also a firm believer in the events recorded in the New Testament, I should like to say a few words in friendly discussion as a reply to the opinion expressed in your paper by a correspondent that St. Paul's "thorn in the flesh" was an eye disease—probably glaucoma. In support of his opinion your correspondent mentions the journey to Damascus recorded in Acts, chapter 9, and St. Paul before the high priest recorded in Acts, chapter 23; and in dealing with the subject it is, of course, necessary to look at it from a spiritual as well as from a medical view. I have had to go into details to explain my interpretation of the two passages, and I cannot see that either account affords any evidence whatever that St. Paul suffered then from eye diseases—glaucoma, iritis, optic neuritis, or anything else.

First, to deal with the journey to Damascus (Acts, chapter 9). Saul of Tarsus having persecuted the church of Christ is journeying to Damascus, apparently in good bodily health, with a view to making more havoc amongst the Christians. Suddenly he is overcome by a great light from heaven, and he "fell to the earth. When his eyes were opened he saw no man, but they led him by the hand and brought him into Damascus, and he was three days without sight." From this account it is apparent that as soon as he rose from the earth his sight was completely gone—taken away suddenly, and I find it quite impossible to believe that this sudden loss of vision was an attack of acute glaucoma. The restoration of his sight by Ananias the disciple shows clearly it was not. The account says: "Immediately there fell from his eyes as it had been scales, and he received sight forthwith." And during my experience of eye diseases—acute or chronic as known to us in these days—I have never seen or heard of any case being cured so suddenly in this way. It is a well-known thing that deficient eyesight is a terrible drawback in every kind of work, and as St. Paul was to preach the gospel of Christ crucified and risen from the dead in Jerusalem, Ephesus, Corinth, Rome, and other cities, I cannot for a single moment believe that Christ would strike his servant with defective eyesight at the beginning of his preaching. At the present day we often come across patients who have, in the early stages of some acute eye disease—iritis, glaucoma—either had no treatment or been treated wrongly by some chemist. Later on the patient goes to a doctor, who diagnoses the case and treats it correctly, and even then the vision is often found, after the attack is over, to be worse than before the attack. I am quite certain that in St. Paul's time the vision, after an acute eye disease, was far more defective than in these days of accurate diagnosis and treatment. To my mind it is quite apparent that the sudden complete blindness of St. Paul at Damascus was no disease that we know about in these days, but was what I may call a special act of Christ, intended to impress on St. Paul the fact that, although he could kill the followers of Christ, he (St. Paul) was perfectly powerless against Christ Himself, and that Christ could do with him as He pleased. It has always struck me as curious that St. Paul was blind for three days, during which time he apparently repented of his past life and made good resolves for the future, and that Christ was on the cross for three days, during which time the disciples thought over the past and their own weakness, and also considered the future.

Secondly, Paul before the high priest (Acts, chapter 23). In the first verse we read: "Paul, earnestly beholding the council, said . . ." Now, these words do not at all suggest defective eyesight. I do not think St. Paul's words, "I wist not that he was the high priest," are any evidence whatever that he could not see the high priest distinctly, and he follows this with, "For it is written, 'Thou shalt not speak evil of the ruler of thy people.'" This latter remark reveals the whole meaning of St. Paul's words previously uttered, and I suppose he referred to a passage in the book of Exodus: "Thou shalt not revile the gods, nor curse the ruler of thy people." I understand the high priest accepted the Old Testament and preached the same, and ought to have set a good example to others as a God-fearing man, and to have practised what he preached. In giving orders to smite Paul on the mouth he had offended against God and Christ by striking their servant, and by so doing the high priest had laid himself open to attack from Paul, and the apostle at once saw and seized his opportunity to give the high priest a very hard knock indeed in words in return. His reply, "I wist not," etc., was made in contemptuous defiance of the high priest, and St. Paul meant that the high priest's conduct was completely unworthy of one claiming to act as a servant of God. If the words, "I wist not," etc., were used meaning that St. Paul could not see the high priest distinctly, it would have amounted to an apology to the high priest, and a confession from St. Paul that he himself was in the wrong. The apostle and high priest had a severe battle of words, and the apostle gave a very hard blow to the high priest which took considerable effect.

In conclusion, I may say the word "blindness" used in the Epistles may, of course, be used to mean other than defective vision—as, for instance, blind to faults, blind to the luxuries of this world, etc. The "thorn in the flesh," if it was a bodily disease, was most likely the severe headaches mentioned, or possibly some disease of thoracic or abdominal viscera, and I do not see there is any reliable evidence of its being defective eyesight. I am, however, quite agreeable to be converted to this latter view by any one if it can be proved from the New Testament.

THE CAUSATION OF SEX.

DR. H. P. GODFREY (St. Kilda, Melbourne, Victoria) writes: In the JOURNAL of April 23rd appears a letter on that ever interesting subject, "The Causation of Sex." Without offering any theories of my own, I wish to put on record the following case which recently came under my notice for the information of any who are working at the subject: Mrs. S., aged 27, is one of a family of thirteen, who are all girls (there is no boy in the family). Seven of the girls are married, with the following results as regards the sex of their children: No. 1, aged 40, has six girls (no boy); No. 2, aged 38, has seven girls (no boy); No. 3, aged 30, has three girls (no boy); No. 4, aged 29, has two girls (no boy); No. 5 (Mrs. S.) has one girl (no boy); No. 6, aged 22, has two girls (no boy); No. 7, aged 20, has one girl (no boy). Here, then, in one branch of a family we have a run of thirty-two girls without a boy. I have been unable to obtain the history of any other branches of the family beyond the fact that Mrs. S.'s mother was one of a family of three (all girls). As opposed to the theory of the writer of the letter of April 23rd I may say that Mrs. S.'s husband, who consulted me for neurasthenia, complained of absence of sexual desire and partial impotence, so that in that case one would have expected a boy. It seems that the question is not such a simple one as "right or left ovary" or relative sexual vigour, but that there are other factors of a hereditary nature—using the term in its widest significance—that at present we have not yet fathomed.

THE SAD CASE OF THE LONDON PHYSICIAN.

CROESUS writes: I think it only right that attention should be drawn to the pitiable condition of the "London physician," as revealed by a letter received by me lately, of which the following is a copy: "Sir,—I am sending you herewith P.O. value 2s. 6d. in settlement of your account dated 25th ult. The amount you charge—namely, 3s. 6d.—is excessive for the services rendered. You only saw me once, and then hurriedly, and I was afterwards required to purchase my own medicine, which cost about 4s., and this for an ordinary sore throat. I can get attendance and medicine from a London physician at 1s.; so you will understand I do not feel inclined to pay 3s. 6d. for your services.—Yours faithfully, ——." I need hardly say that I returned the postal order, fearing that, if I did not do so, the London physician in question might have to further reduce his fees.

A GRATEFUL PATIENT.

A CORRESPONDENT sends us the following lines which he received, together with a cheque, from a grateful patient:

> How much a doctor's patients demand when they are ill,
> And still demand his patience when he demands his bill;
> With such we have no patience, but, recognizing skill,
> We pay as should all patients, remaining patients still.
>
> F. W.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes Restante* letters addressed either in initials or numbers.